

R E P O R T R E S U M E S

ED 003 296

24

CHANGES IN CRITICAL THINKING ABILITY, ATTITUDES, AND VALUES
ASSOCIATED WITH COLLEGE ATTENDANCE.

BY- LEHMANN, IRVIN J. DRESSEL, PAUL L.
MICHIGAN ST. UNIV., EAST LANSING

REPORT NUMBER CRP-1646

PUB DATE

63

EDRS PRICE MF-\$0.27 HC-\$7.88 197P.

DESCRIPTORS- *COLLEGE STUDENTS, *ATTITUDES, STUDENT ATTITUDES,
*STEREOTYPES, *DOGMATISM, *COGNITIVE TESTS, *CRITICAL
THINKING, VALUES, EAST LANSING, MICHIGAN

AN INVESTIGATION WAS MADE OF THE RELATIONSHIP BETWEEN THE AMOUNT OF COLLEGE EDUCATION AND CHANGES IN ATTITUDES OF STEREOTYPE AND DOGMATISM, IN TRADITIONAL-VALUE ORIENTATION, AND IN CERTAIN SELECTED ATTITUDES AND VIEWS RELATED TO HIGHER EDUCATION. DURING THE FALL 1958 ORIENTATION WEEK, A BATTERY OF COGNITIVE AND AFFECTIVE TESTS WAS ADMINISTERED TO STUDENTS (2,973) ENTERING MICHIGAN STATE UNIVERSITY. COMPLETE, USABLE DATA WERE OBTAINED FOR 2,746 STUDENTS, WHO WERE THE NUCLEUS FOR THE SAMPLE IN THE STUDY. THE TOTAL POPULATION WAS SUBDIVIDED INTO FOUR EDUCATIONAL GROUPS--(1) 0-3 TERMS OF COLLEGE, (2) 4-6 TERMS, (3) 7-10 TERMS, AND (4) MORE THAN 10 TERMS OF COLLEGE EDUCATION. THE FIRST THREE GROUPS WERE THE CONTROL GROUPS AND THE LATTER THE EXPERIMENTAL ONE. COMPLETE, USABLE DATA WERE OBTAINED FOR 1,134 EXPERIMENTAL SUBJECTS AND FOR 667 CONTROL SUBJECTS. THOSE STUDENTS WHO WERE STILL ENROLLED AT THE UNIVERSITY IN THE SPRING 1962 WERE READMINISTERED THE TEST BATTERY. THOSE SUBJECTS IN THE CONTROL GROUPS WERE RETESTED WITH THE SAME BATTERY GIVEN TO THE EXPERIMENTAL SUBJECTS. ANALYSIS OF COVARIANCE, REGRESSION EQUATIONS, AND CHI SQUARES WERE EMPLOYED. A TOTAL OF 32 MAJOR FINDINGS ARE REPORTED, AND 15 IMPLICATIONS DISCUSSED FOR HIGHER EDUCATION. IN NEARLY ALL INSTANCES THERE WAS A SIGNIFICANT IMPROVEMENT IN CRITICAL THINKING ABILITY, A LESSENING OF STEREOTYPIC BELIEFS, A MOVEMENT AWAY FROM AN AUTHORITARIAN ATTITUDE, AND A MOVEMENT TOWARDS THE TRADITIONAL-VALUE ORIENTATION. (JC)

PRECEDING PAGE BLANK NOT FILMED

ED 003296

CHANGES IN CRITICAL THINKING ABILITY, ATTITUDES,
AND VALUES ASSOCIATED WITH COLLEGE ATTENDANCE, FINAL REPORT.

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

Final Report
of
Cooperative Research Project No. 1646

Irvin J. Lehmann
Paul L. Dressel

MICHIGAN STATE UNIVERSITY
East Lansing, Michigan

1963

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education, and Welfare.

ED 003296

ACKNOWLEDGMENTS

The researchers are grateful to many persons who made this study possible. They first express their deepest appreciation to the students and former students of Michigan State University who were willing to cooperate at various times throughout the four years by being tested, interviewed, and retested.

Invaluable assistance was give this study by various members of the Office of Evaluation Services: Willard G. Warrington, Director, and Arvo E. Juola; members of the Office of Institutional Research: Margaret L. Lorimer, and Joe L. Saupe.

Edward A. Carlin, Dean of the University College, and Willard G. Warrington, Director of Evaluation Services provided released time and made financial arrangements for the project director.

The two research associates who worked on the study at various stages were Dr. Rodney T. Hartnett and Mr. Birendra Sinha. They contributed much to the gathering of data and its analysis.

The researchers are grateful to Mr. Frank B. Martin, Mr. Roland Sanderson, Mrs. Norma Ray, and their staffs for assistance in IBM tabulation and scoring. Mr. Lynn Peltier programmed the CD 3600 to perform the numerous chi-square analyses.

The researchers are indebted to Mrs. Phyllis West and Mrs. Patricia Smith who labored hard to decipher the hieroglyphics and scrawl and produced a readable manuscript.

The authors are greatly indebted to Dr. Donald R. Come who read the prepublication drafts of the manuscript and offered many helpful suggestions. Final responsibility for what has been said and what may have been unsaid is, of course, the responsibility of the project director who is indebted to Ruth, Ilene, and Allan for their patience and understanding while the study was being conducted.

Irvin J. Lehmann
Project Director

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
 Chapter	
I INTRODUCTION	1
Brief Statement of the Problem	2
Rationale for the Study	6
Hypotheses Tested	7
Review of Research: Early Studies	7
Review of Research: Recent Studies	12
Review of Research: Methodological Problems	20
II DESCRIPTION OF INSTRUMENTS USED, POPULATION STUDIED, AND THE STATISTICAL TOOLS USED TO ANALYSE THE DATA	26
Description of Major Battery	26
Minor Battery	30
Description of the Population	31
The Experimental Group	33
Composition of Experimental and Control Groups	38
III RESULTS AND DISCUSSION	39
Hypothesis Tested	39
Procedure	39
Findings	40
Views and Perspectives of College Graduates and Withdrawals from College	50
A Look at College	50
Some Further Views on College	56
Political, Social, and Economic Views	62
A Look at Professors	70
Participation in Community Activities	79
Students Look at the Objectives of College	84
Self-Perceived Changes	94
Some Prestige Factors	111
Students and Former Students Look at Religion	115
The Ideal Community	118
IV FACTORS ASSOCIATED WITH CHANGES IN ATTITUDES AND VALUES	123
Procedure	124
Findings	125

Chapter	LIST OF TABLES	Page
V	RESULTS AND DISCUSSION: ADDITIONAL HYPOTHESES RELATED TO ATTITUDE AND VALUE CHANGES	140
	1. Means, Standard Deviations, and Internal Consistency for General Academic Aptitude	140
	2. Sex	143
	3. Changes in Critical Thinking Ability from Freshman to Senior Year	148
VI	SUMMARY AND CONCLUSIONS	152
	4. Some Implications for Higher Education	162
	BIBLIOGRAPHY	170
	APPENDIX	177
	5. Descriptive Analysis of Dependent Scores for Four Groups of Values	72
	6. Descriptive Analysis of Dependent Scores for Four Groups of Females	73
	7. Descriptive Analysis of Intensity of Beliefs Scores for Four Groups of Values	74
	8. Descriptive Analysis of Intensity of Beliefs Scores for Four Groups of Females	75
	9. Adjusted Post-Hoc Tukey's HSD Scores for Significant Differences	76
	10. Post-Hoc Comparisons of Intensity of Beliefs Scores for Post-Hoc Groups of Females	77
	11. Descriptive Analysis of Extracurricular Values Scores for Four Groups of Females	78
	12. Post-Hoc Comparisons of Extracurricular Values Scores for Post-Hoc Groups of Females	79
	13. Descriptive Analysis of Extracurricular Values Scores for Post-Hoc Groups of Females	80
	14. Descriptive Analysis of Beliefs and Extracurricular Values Scores for Freshmen, College, and Senior	81
	15. Post-Hoc View on Beliefs	82
	16. Beliefs, Extracurricular, and Extracurricular Values	83
	17. Characteristics of a Good College Teacher	84
	18. Perceptions of the Faculty by Seniors and Freshmen	85
	19. Degree of Participation in Extracurricular Activities	86

LIST OF TABLES

Table	Page
1. Means, Standard Deviations, and Internal Consistency Estimates for the Cognitive and Affective Measures on Freshman Year Pre-Test(Fall, 1958)	32
2. Post-Test Sample Classified by Sex	37
3. Composition of the Control Group	38
4. Covariance Analysis of Differential Values Scores for Four Groups of Males	40
5. Post-Hoc Comparisons of Differential Values Inventory Scores for Various Groups of Males	41
6. Covariance Analysis of Dogmatism Scores for Four Groups of Males	43
7. Covariance Analysis of Dogmatism Scores for Four Groups of Females	43
8. Covariance Analysis of Inventory of Beliefs Scores for Four Groups of Males	43
9. Covariance Analysis of Inventory of Beliefs Scores for Four Groups of Females	44
10. Adjusted Post-Test (1962) Scores for Significant F-Ratios	44
11. Post-Hoc Comparisons of Inventory of Belief Scores for Various Groups of Females	45
12. Covariance Analysis of Differential Values Scores for Four Groups of Females	47
13. Post-Hoc Comparisons of Differential Values Scores for Various Groups of Females	47
14. Reactions of Seniors and Withdrawals to Classes, Instructors, College, and Grades	52
15. Some Further Views on College	58
16. Social, Political, and Economic Views	63
17. Characteristics of a Good College Teacher	72
18. Perceptions of the Faculty by Seniors and Withdrawals	77
19. Degree of Participation in Community Activities	81

LIST OF TABLES (cont'd)

Table	Page
20. Objectives of College - Spring, 1962	86
21. Objectives of College - Fall, 1958	89
22. Self-Perceived Typology Changes from Freshman to Senior Year	96
23. Self-Perceived Changes in Attitudes and Values from 1958 to 1962	101
24. Faculty Prestige Factors	112
25. Factors Leading to High Prestige with Students	114
26. Rank-Order Correlations for Selected Religious Concepts for Various Male and Female Group Comparisons	116
27. Response to Lack of Community Facilities	119
28. Self-Perceived Impact of Various Types of Experiences	126
29. Self-Perceived Impact of Various Types of Experiences	135
30. Correlations Between CQT Total Score and Change-Scores for Males and Females on the Inventory of Beliefs, Dogmatism Scale, and Differential Values Inventory	141
31. Means, Standard Deviations, F-Ratios, and Adjusted Means for the Inventory of Beliefs for Males and Females in 1958 and 1962	144
32. Means, Standard Deviations, F-Ratios, and Adjusted Means for the Differential Values Inventory for Males and Females in 1958 and 1962	144
33. Means, Standard Deviations, F-Ratios, and Adjusted Means on the Dogmatism Scale for Males and Females in 1958 and 1962	145
34. Means, Standard Deviations, and Test of Significance for Changes in Critical Thinking Ability for Males and Females	149

CHAPTER I

INTRODUCTION

Brief Statement of the Problem

The main purpose of this longitudinal investigation was to determine whether or not changes in critical thinking¹ ability, attitudes, and values occur in students as a result of college attendance. Precisely, we were interested in knowing and comparing the degree and direction of changes in those who had uninterrupted college education at Michigan State University for four years and in those who withdrew from MSU sometime during their freshman, sophomore, and junior years. Within the purview of this major problem, we were also interested in the differential role of sex and of amount of education in producing changes in the students' critical thinking ability, attitudes, and values.

To pursue this study, a battery of attitude and value tests was administered to two groups of students who had taken this same battery when they enrolled as freshmen at Michigan State University in the Fall of 1958 - (1) students completing four years of college education without any interruption, and (2) students withdrawing from MSU sometime during their freshman, sophomore, and junior years.² The data thus obtained are being analyzed in this report to learn whether there were any marked differences in the degree and direction of change in the attitudes, and values between those two groups of students.

¹ Our original intent was to administer a test of critical thinking to both groups. However, since this is a timed test,, this was not found to be possible.

² Students who withdrew in either the junior or senior year were considered as junior year withdrawals since preliminary tests indicated no marked differences between them.

Rationale for the study of the Problem

The growing concern of the modern democratic nations about higher education shows a deep faith in the ability of colleges to bring about desirable intellectual and non-intellectual changes in students. Generally speaking, the American colleges are interested in the rounded development of their students' personality. As a consequence, in addition to the development of scholastic and intellectual abilities, and the transmission of knowledge, importance has also been accorded in college programs to students' critical thinking ability, attitudes, values, and stereotypic beliefs. In fact, both of these aspects of higher education are vital for the successful functioning of democracy in any country. Insofar as the development of scholastic abilities and transmission of knowledge are concerned, the effectiveness of college programs is beyond any controversy. But there is also a widespread belief among college administrators, parents, and students that college experience is instrumental in producing personality changes which are desirable and socially useful in a democratic society.

Perusal of college catalogues reveals explicit recognition of higher education's concern for the development of critical and creative thinking, and the fostering of a wholesome set of attitudes and values. Notwithstanding the specific goals and objectives of different institutions, they are generally interested in the development of such attitudes and values as may be acquired by an understanding of the physical universe, of the methods of science, of social organization and the process of social control, and by a study of man himself. The universities and colleges are clearly desirous of some behavioral change in their students, whether these changes be in academic skills, knowledge, attitude, values, beliefs, interests, or ideals.

If the institutions of higher education are successful in achieving these broad goals and objectives, then it may be assumed that sometimes

during the college years the majority of the student population would tend to become better critical thinkers, less stereotypic in their beliefs, and more receptive to new ideas. Further, it would also be expected that the students would be more apt than previously to change their values in the light of critical thinking and scientific appraisal. Obviously enough, some students would undergo changes to a greater degree than others, while few would not undergo any changes at all.

These assumptions have precipitated several research investigations. The impact of college experience has been studied with reference to various aspects of personality traits and behavior of the students. While the research findings are not conclusive, there is evidence to suggest that college students do undergo some changes in critical thinking ability, attitudes, and values (Jacob, 1957; Webster, 1958; Miller, 1959; Freedman, 1960; Plant, 1962; Lehmann and Dressel, 1962). Of course, the degree of change varies according to age, sex, institution attended, and the total personality structure of the student. It was also found that as compared to attitudes, certain values tend to remain stable (Kelley, 1955). Moreover, some college programs are more effective than others in developing a set of socially-oriented values among students (Hall, 1950).

Most previous researchers in this area, however, have focused their attention on such specific problems as changes in student attitudes and opinions about current social, religious, economic, or political issues (Pressey, 1946; Arsenian, 1943; Hunter, 1942). Many of the previous studies have also been concerned with limited personality characteristics such as authoritarianism, ethnocentrism, rigidity, etc. Similarly, for the most part, researchers in values have employed such standardized tests as the Allport-Vernon Lindzey "Study of Values", the Edwards' Personal Preference Schedule, or a locally-constructed questionnaire.

In addition to the fact that the above investigations have been restricted to the specialized problem areas, they have also for the most part, been cross-sectional rather than longitudinal. Furthermore, very few have employed large numbers of students. These studies may also be considered fragmentary and incomplete, for only one or two measures have been employed in single studies.

Thus, although there have been many studies concerned with the changes taking place in personality traits from the freshman to senior year and with the impact of college experiences on student behavior, there has not been adequate study for large numbers of students of the changes in critical thinking ability, stereotypic beliefs, and values associated with college attendance. Moreover, few studies have compared changes in behavior between students who complete their college education and students who enroll in college but withdraw after the freshman or sophomore year.

The problem under investigation is an extension of a study by Lehmann and Dressel (1962) concerning the changes in critical thinking ability, attitudes, and values of college students over a four-year period in relation to:

1. Sex differences.
2. Curricular differences.
3. Religious differences.
4. Change of major.
5. Academic performance.
6. Withdrawal from and continuance in college.
7. Socio-economic differences such as size of home community, father's primary occupation, parental education, and nationality of parents.

In general, the findings of this longitudinal study did not indicate any specific factor either within the college matrix, per se, or within the student's home background that might account for changes in attitudes and values. In other words, it is not certain that attitudes and values of students are influenced markedly by particular college experiences. Similar conclusions have been reached by Jacob (1957). He observes, "the impetus to change does not come primarily from the formal educational process" and "the main over-all effect of higher education upon students' values is to bring about general acceptance of a body of standards and attitudes characteristic of college-bred men and women in the American community." Since there are many unaccountable factors in these studies, one may not agree with Jacob. But the evidence seems to support Eddy (1959) when he suggests that "the greatest impact on character occurs as a result of the total campus experiences, especially if the relationship between intellectual training and character is made a real one." Any single factor, therefore, cannot be isolated to explain these changes. It is quite possible that there are no single events or experiences which might be disentangled because (a) the impact is an aggregate of many small experiences, (b) the student is not able to isolate any influential course or instructor while in college, or (c) higher education might have no effect upon a student's attitudes, opinions, and beliefs.

On the basis of research evidence to date, the fact that attitudes and values of freshmen differ from those of seniors cannot be denied. But the major question is whether the formal aspects of education result in actual behavioral changes or whether these changes may be attributed to the general college environment, age (maturational) or cultural factors, or the peculiar potency of the time we live in.

Although the present investigation is concerned with changes in attitudes, and values of students who have completely severed their connection with higher education, no attempt has been made to study why these students left college. This aspect has been studied quite comprehensively by Lins (1953), Iffert (1958) and Yoshino (1958).

The primary purpose of this study was to determine the differences in the degree and direction of change in attitudes and values between two groups of students - a group who enrolled as freshmen in the fall term, 1958, at Michigan State University and who continued until the spring term of 1962; and another group who enrolled as freshmen at Michigan State University in the fall term, 1958, but who withdrew from Michigan State University and did not subsequently enroll in another college or university. In this study, therefore, changes in attitudes of stereotypy and dogmatism and in traditional-value orientation associated with differing amounts of college attendance was of chief concern to the investigators. The present study will also attempt to shed some light on Newcomb's (1960) theory that peer group effects are very important and should be considered in studying attitude and value changes.

Hypothesis Tested

Although it was recognized that additional questions and hypotheses would emerge in the course of the investigation, the major hypothesis of this research was framed as follows:

Subjects who complete four years of college do not differ significantly in stereotypic beliefs, dogmatism, and traditional values, at the beginning or end of four years of college, from comparable subjects who do not complete four years of college.

Some minor questions associated with the major hypothesis were:

- (1) Are sex differences related to extent of change in attitudes and values?

- (2) Are intellectual differences related to extent of change in attitudes and values?
- (3) Are amounts of college education related to extent of change in attitudes and values?

Review of Research

Although there had been several studies during the 1920's and 1930's in regard to college students' attitudes and values, most of them suffered from serious methodological defects. The methodological problems will be discussed at some length in a later section of this report. During the last two decades, still greater attention was given to research in this area of attitudes and values of college students. In recent years also, the impact of college experience on the development, stability, and changes in attitudes, values, and other personality dimensions have been studied quite extensively by psychologists, sociologists, anthropologists, and educators.

That attitudes and values are instilled early in life needs no documentation. Interest has shifted from the study of the chronological development of attitudes and values to a consideration of certain crucial factors in the individual's life affecting that development. College attendance, in general, has been found to be one such crucial factor responsible for producing changes in attitudes and values. These changes vary widely in both degree and direction.

Early Studies

As mentioned earlier, most previous researchers were interested in determining the influence of college education in general, or of a course in particular, on students' attitudes and values concerning specific problems. As early as 1925, Symonds attempted to measure the attitude of liberalism in students from grade VIII to the senior year at the University of Hawaii. He came to the conclusion that formal education beyond Grade VIII was not able to change this attitude. A slight effect of college training in the direction

of liberalism was, however, observed by Jones (1926) and Garrison and Mann (1931) on attitudes toward political, economic, social, and religious issues. The upper-class students were "more cautious" in their conservatism and "less suggestible." Similar conclusions were arrived at by Willoughby (1930) who studied opinions of about 800 students regarding several problems of current interest. "A systematic shift of opinion with longer academic experience, particularly in the direction of liberalism" was traceable in his data. In another study of liberal arts college students, Cantey and Mull (1942) postulated that seniors were more democratic, progressive, and liberal than freshmen because of the academic program offered by the college. Several other investigators who were also interested in measuring the increase in liberalism reported a close association between the amount of formal schooling and the degree of liberalism (Boldt and Stroud, 1935; Kerr, 1944).

Some studies pertaining exclusively to changes in religious attitudes of college students reveal inconsistent results. While Thurstone and Chave (1929) could not find "any distinct trend" among the undergraduate students of the University of Chicago "to become more in favor of or more against the church as they progress through the college," some influence of college education was clearly detected by Katz and Allport (1931), Dudycha (1933), and Gilliland (1940). On the other hand, marked changes in religious thinking toward lessened orthodoxy and greater liberalism with advancing years in college were reported by Bain (1927) and Binnewies (1934). The seniors and juniors compared to the freshmen and sophomores were less orthodox, less conservative, and more impersonal in their beliefs concerning religious matters.

Somewhat related problems of morality, belief in evolution, discarded beliefs and the like were of interest to the early researchers in this field (Dudycha, 1933; Dudycha, 1934; Bain, 1936). The results of all these studies showed that college training was responsible for change in some degree. Even

a semester's attendance in a General Psychology course caused significant reductions in the superstitious beliefs of the students (Emme, 1943).

If college education has any effect in reducing irrational beliefs and conservatism, then these tendencies should be reflected in students' attitudes on important national and international problems relating to war, pacifism, Negroes, race, etc. Using his own "Attitude toward War" scale, Droba (1931, 1932) made a series of investigations in this area. Droba concluded, "These results tend to indicate that education has something to do with the formation and modification of attitudes toward war and peace." But Soward's (1934) study, although using the same statistical technique, did not lend unequivocal support to the conclusion drawn by Droba. The modification in a student's attitude toward war did not appear very marked, according to Soward. Nevertheless, both Droba (1932), and Garrison and Burch (1933) reported clear indications of differentiated racial attitudes dependent upon the amount of college training. But again, Johnson (1934) reported only slight changes in the attitude of students toward Negroes. He also found that the degree of change was not dependent upon the amount of college education.

All the studies discussed thus far were cross-sectional in that they selected their samples from the concurrent college classes. The obvious limitations of cross-sectional design motivated other researchers to use longitudinal data for assessing the influence of college training on attitudes and values.

One of the earliest longitudinal investigations covered a ten-year period with regard to moral attitudes, anxieties, and interests of university students (Buck, 1936). Changes in the direction of a distinct liberalization of opinion were, however, considered to be an interaction of pre-college origin, and the changing cultural patterns rather than the college experience, per se. By means of the Thurstone Scale dealing with attitude toward war, attitude

toward the Negro, attitude toward religion, and attitude toward the church, Jones (1938) studied attitudinal changes of college students extending over a six-year period. Unlike Buck (1936), Jones reported that the students were increasingly liberal as they progressed in their college program, except in the case of attitude toward Negroes. The differential role of intelligence, age, major subject, political party, and religious affiliation on the attitude change was also assessed by Jones. Breemes, Remmers, and Morgan (1941) obtained similar results about the question of liberalism versus conservatism in college students.

An interesting comparison of eighteen institutions of higher learning was made by Nelson (1938). He found relatively small differences in attitudes among the four college classes of students attending denominational institutions in comparison to the large differences among the classes of students at state universities and Quaker colleges. Nelson also reported that freshmen were more homogeneous in attitudes than seniors, and, on the average, freshmen tended to be more conservative than upperclassmen. The importance of college programs in effecting attitude change is thus clearly demonstrated in this study.

A careful longitudinal investigation in the 1930's was that of Farnsworth (1937) on the problem of attitude toward war. As students were tested and retested over a three year period with the "Peterson Attitude Toward War" scale, a slight trend toward pacifism was manifested in the last two years.

Studies which were complex both in methodology and scope started to appear in the literature after 1940. Quite a number of studies during these years were conducted on female students exclusively. (Robertson and Stromber, 1939; Corey, 1940; Burgemeister, 1940; Hunter, 1942; Newcomb, 1943).

Although no reliable changes were discovered in the attitude of students completing one year of college, Corey (1940) noted that a greater amount of

liberalism was apparent in all the changes that occurred in the students. Burgemeister (1940) explored the permanence of interest on the part of Barnard women and found that the students possessing deeper and permanent intellectual interests were those who participated little in social activities. Hunter (1942) administered his own "Test of Social Attitudes" to representative women students of a small Southern liberal arts college. As expected, the attitudes and beliefs changed significantly from the freshman year to the senior year. Nevertheless, there was no change on religious matters.

The study by Robertson and Stromberg (1939) was somewhat different in that the authors measured the stability of personality ratings during college residence. The resident upperclass women were given Royer's personality inventory. The initial scores were compared with scores taken $2\frac{1}{2}$ years later. The results indicate a significant increase toward dominance-extraversion-adjustment due to collegiate experience. These results are also supported by Burton's (1945) data obtained from a representative sample of students at the University of Arizona. After four years of college training, the Arizona students became more emotionally stable, more self-sufficient, more extroverted, more dominant, and more self-confident. Palubinskas (1952) noted significant personality changes in college women over four years toward better social and emotional adjustment.

Other large-scale longitudinal studies, using representative samples which included both men and women students, came out with inconclusive results. The entering freshmen at Ohio State University were given the Pressey-Interest-Attitude Test by Kuhlen (1941) and were retested in their senior year. The conclusion was that the students widened their interests and acquired greater appreciation for basic human values like tolerance, cooperativeness, etc., probably as a result of college experience.

Somewhat similar results were reported by Arsenian (1943) who studied males at Springfield College with the Allport-Vernon-Lindzey Study of Values. He found some rather marked changes in their religious attitudes with the extent of change varying for students in different majors. More or less similar, but yet different, results were reported by Newcomb (1943) in his study of women students at Bennington college. Newcomb observed that students, as a group, tend to become less conservative from their freshman to senior year but as individuals remain quite stable in relative position within classes as conservatives or liberals. Both Newcomb and Arsenian are in agreement that changes take place from the freshman to senior year. Whereas Arsenian found choice of major to be related to changes, Newcomb found this to be only slightly related, with community relationships being more important. The impact of the social and academic values of the college as a community upon the initial values of students was underlined by Newcomb. At first glance, it would appear that the results are contradictory, but this is not the case. Arsenian was studying religious values and Newcomb was studying political attitudes; Arsenian was studying males, Newcomb was studying females. These differences might explain, in part at least, the discrepancy in findings regarding the impact of college experiences. Both, however, are in agreement that changes do take place while students are at college.

A massive study on attitude change involving public school and university students from 1923 to 1943 was conducted by Pressey (1946). The results indicated, inter alia, greater liberalization in the attitudes and increase in the interests among students at higher grade levels.

Recent Studies

The spurt of studies in the 1960's concerning the influence of the campus environment upon attitudes, values, character, and personality of students is particularly noteworthy. A closer look at the network of influences operating

on college students provided new insight into the whole problem of change in various personality dimensions, and pointed to new directions for further research in the area.

The Mellon Foundation research findings at Vassar College are illuminating in many ways (Bushnell, 1959; Freedman, 1948, 1959, 1960a, 1960b; 1956, 1958). Freedman (1960b) pointed out that the students' attitudes and opinions on various issues of current interest were remarkably influenced by national and international events. This implies that the cultural trends of the society play an important role in shaping students' values, notwithstanding the impact of college education, per se. The ethos of the society was clearly reflected in the outlook of Vassar College students. According to Sanford (1956), the major source of existing student lethargy lies in the "cultural and intellectual doldrums" of the contemporary American social scene.

A most recent study by Plant (1962) lends support to these general conclusions. Plant observed that the changes in attitudes and values of the students who had withdrawn from college were in the same direction as those of students completing their college education. Of course, the changes in the non-collegiate groups were small compared to those of students attending college. As has been suggested by the author, it might be true that the function of the college is simply to accelerate the process of change already in operation in the society at large.

Contemporary studies on specific attitudes and values are probably as inconclusive as the early studies were. For instance, no significant difference was detected in the average scores for "religious values" on the Allport-Vernon-Lindzey Study of Values by Miller (1959). In spite of the fact that the individual scores revealed some changes, the 'group' as such remained unaffected.

Research reports on ethnocentrism have also shown diverse results. In the study of The Authoritarian Personality (Adorno, et al, 1950), Levinson hypothesized that ethnocentrism is as closely related to the desired amount of education as it is to the actual amount of education obtained. This would suggest that since the majority of students stated upon entrance a desire for at least four years of college education, there might be no difference in attitude and values of those who withdrew from college and those who continued for four years. However, Plant (1958a) reported that there was a significant decrease in ethnocentrism for students who attended college for two years but that there was no significant change for those who did not complete two years of college. Stern (1962) also believes that the ethnocentric attitude of students can be reduced to a considerable extent through college education. Again, in another study Plant (1958b) and Webster (1958), although using different populations, concluded that college seniors were less ethnocentric than they were as freshmen.

Although these findings of decreasing ethnocentrism can be corroborated by many other studies, the study of Foster, Stanek, and Krassowski (1961) did not substantiate a decrease in ethnocentrism with longer college attendance. In fact, in this study, the mean score on the E-scale was slightly higher (although not statistically significant) at the end of the freshman year than it was at the beginning of the freshman year. It is conceivable, however, that the nature of the population Foster and his associates worked with can account for this disparity of findings. (The sample was students at the University of Santa Clara - a Roman Catholic University for men.)

Some recent studies have not only used longitudinal data; they have also attempted to measure the relative influence of different types of colleges in effecting changes in attitude and values of students. Changes in the authoritarian attitude of students from thirteen colleges were studied by

Dressel and Mayhew (1954). Eleven of the colleges indicated a decrease of "authoritarianism" in their students. Brown and Bystry (1956) selected three groups of students with different religious backgrounds--Catholic, Protestant, and Jewish, from three different types of colleges. The institutions included in the study were a large coeducational university in the east, a Catholic liberal arts college for women, and a nondemoninational liberal arts college for women. Insofar as the two liberal arts colleges were concerned, the expected decrease in authoritarianism was apparent. But surprisingly enough, there was no change at the large eastern co-educational university. This peculiarity in the results can be explained in various ways but certainly it should make us refrain from making easy generalizations on the subject of attitude change among college students.

An ambitious project at Vassar undertook to compare women students from Vassar college, Beirut College, and a southern Negro college (Webster, 1958). The seniors differed from the freshmen in the expected direction in all of the three colleges studied. However, the difference was significant only in the case of Vassar college. The general personality make-up of the students, conditioned by their particular cultural patterns, might explain why Webster found Arab and southern Negro students differing in degree in their reactions from the Vassar students.

Application of three of the Vassar scales, namely, Social Maturity, Impulse Expression, and Developmental Status to students at different women's colleges indicated comparable changes in responses from the freshman to the senior year (Webster, Freedman, and Heist, 1962). But it would not be safe to ignore the appreciable amount of differences in the initial scores of the freshmen belonging to the different colleges under consideration.

These conclusions with complicated implications raise another important issue. Any generalization about the changes in attitudes and values of

students must be made only after consideration has been given to the great differences in the personality characteristics of the students admitted to various colleges and universities in America (Heist, 1960; Stern, 1962). The kinds of students seeking admission to a given college depends in part upon the 'public image' of the institution (Clark, 1959). In their excellent review on "Personality Changes in College Students", Webster, Freedman, and Heist (1962) suggest that "the social ideology of an institution, since it is a significant part of this image, may therefore lead to the admission of predominantly liberal or conservatives, changers or nonchangers, and so on." Thus whether or not college training (or experiences) induce substantial change in attitudes and values would probably depend, to a considerable extent, on the kinds of students enrolled in a particular college.

Some of the most significant recent work concerning the influence of the campus environment on students' attitudes, values, and character development has appeared in the form of general reviews of the research findings previously reported. Jacob (1957), after making an exhaustive review of studies dealing with college students' attitudes and values, concludes:

"This study has discovered no specific curricular patterns of general education, no model syllabus for a basic science course, no pedigree of instructor and no wizardry of instructional method which should be patented for its impact on the values of students. . . . the impetus to change does not come primarily from the formal educational process."

It was also claimed by Jacob that there was a profile of values for the majority of American college students irrespective of the geographical location of the colleges. The students were "unabashedly self-centered", and they placed great value on the "material" aspects of life. Although the college experience did not produce any significant change in values, Jacob

took notice of "more homogeneity and greater consistency of values among students at the end of their four years than when they began."

Jacob's (1957) accusation that American students are self-centered and materialistic in their outlook finds general support from Gillespie and Allport (1955) who included 10 countries in their study of students' opinion about their future. Gillespie and Allport found pronounced "privatism" in the American students in clear contrast to the outlook of students from other nations. But Reisman (1958) objected to Jacob's conclusions and pointed out the role of campus experiences in producing a group of persons significantly different from those without college education. Marquis (1958) and Barton (1959), on the other hand, have questioned from the methodological point of view the overgeneralizations in Jacob's critique.

Notwithstanding his overall conclusion about the insignificant role of college training, Jacob (1957) did find that "a climate favorable to a re-direction of values appears more frequently at private colleges of modest enrollment. In a few instances, something of the sort has also emerged within a particular school or division of a larger public institution."

Two other comprehensive reviews in this area are -- Impact of College by Freedman (1960b), and The American College by Sanford (1962). In his brief survey, Freedman (1960b) has highlighted the important research reports, including those with controversial results. Reporting upon a longitudinal study underway at Vassar college, Freedman concluded that there are substantial personality changes between the time the student enters as a freshman and when she leaves college four years later. Seniors tend to be more mature but less stable; they tend to be less "feminine", they are less authoritarian, more tolerant, and display greater religious liberalism; they demonstrate greater acceptance of intellectual values and greater internal conflict than

freshmen. These findings are present not only in longitudinal studies of a group but also in cross-sectional studies. "The same kinds of trends obtain between freshman and senior years."

The most recent comprehensive and thorough survey of the studies on the role of higher education has been published in the volume, The American College, edited by Sanford (1962). Webster, Freedman, and Heist (1962) discuss in a most illuminating manner the problem of change in students' attitudes and values in a chapter of this volume. After reviewing the studies conducted before World War II, the authors conclude that "in general, students in college changed in the direction of greater liberalism, and sophistication in their political, social and religious outlooks." They also reported similar trends from the recent and contemporary research on college student populations.

The importance of the campus climate in changing the attitudes and values of college students is apparent in the works of Eddy (1957, 1959), Brown and Bystrym (1962), Lazure (1962) and Gottlieb and Brookover (1961). Eddy (1957) feels that ". . . perhaps the best way to transmit values is to create an 'atmosphere' on the campus." In his thorough study by visitation and interview of faculty, administrators, and students at 20 colleges and universities of various types throughout the United States, Eddy (1959) found that all that went on outside the classroom was a factor of paramount significance in the development of character, and that particular aspects of the environment such as attitudes, surroundings, extra activities, manners, and morals have the power either to reinforce or to negate all that the college has to offer. Furthermore, he contends that "the best environment for the development of character is the result of unity in common goals, a communicated tradition to which all phases of campus life make their particular contribution."

Eddy (1959) further found that the level of expectancy in all matters concerning and involving the student in the college environment is a highly important determinant of what happens to him. The level of expectancy controls not just academic situations but social relationships, group life, and, in fact, all that happens to the student. He concluded that "The level (of expectancy) is established most successfully in the acceptance by all of a common task, a common goal. It is reached only by the mutual assumption of particular responsibilities. Beyond what the college expects of itself, it must maintain a high but realistic level of expectations of its faculty."

Gottlieb (1961) surveying the career preference of 2,845 graduate students, reported that their preferences changed toward the respective departments whose specific climates they found more pleasing or suitable.

Jacob (1957) also recognized the importance of the campus climate but it would appear that "climate" as he describes it is unique or atypical to the small college.

It would appear then, that the college atmosphere is a potent factor in shaping the attitudes and values of college students. However, since it is a general rather than a specific atmosphere, this may explain why Lehmann and Payne (1963) were unable to single out any one factor as being responsible for college students' attitude and value changes.

In summary, the results of both longitudinal and cross-sectional studies of college students have demonstrated that significant personality changes occur between the freshman and senior year. With few exceptions, studies on changes in the attitudes, values, interests, and beliefs of college students from their freshman to senior year indicate that there are marked differences between the freshman and senior year. There is very little evidence, however, that any one factor from the multitude of college experiences explains changes in attitudes and values. Changes in personality characteristics during school

and college years may be a function of the person's maturity or personality, a function of the times we live in, the direct result of college experiences, or a combination of one or more such factors (Jacob, 1957; Mayhew, 1958; Wagman, 1955).

We adopt only those attitudes and values which will help us achieve desired ends (Kurtz, 1956; Morris, 1957) and which are normally sanctioned by the community in which we live (Dameron, 1955; Hemmings, 1957). In addition, the degree and extent to which attitudes and values are modifiable depends upon the nature of the experience (Smith, 1955), the type of contact (James, 1955; McGuigan, 1958), the personality make-up of the individual (Nelson, 1956), the group's approval of new attitudes (Rosenberg, 1956), and the subject's perception of the outcome (Carlson, 1956; Katz, 1957). Because of the continual interaction of these variables, it is difficult indeed to conclude as did Jacob that neither courses, nor instructors, nor instructional methods have a marked impact upon student's values. However, we may agree with Raushenbush (1957) who said:

"If student mores and the influence of the peer group and the experiences outside the classroom are as important as all this research has indicated, the conclusion we should come to is, not the pessimistic one that education does not matter at all, but rather that education has another job to do, perhaps beyond the one educators have felt was their job. Colleges must take responsibility for creating a climate of values that will give some direction to student mores."

Methodological Problems

Any research undertaking in the area of personality change must encounter a multitude of technical and methodological difficulties. The problems become exceedingly complex when the studies are carried out in the field, that is,

outside the laboratory setting. Nevertheless, with the refinement of statistical tools and advanced research designs, we are now better equipped to tackle the problem in a scientific manner.

In historical perspective, it is no wonder that earlier studies on attitude change adopted somewhat naive research designs. As far back as 1936, Corey called attention to the methodological fallacy involved in most of the investigations reported in the 1920's and the 1930's. The general strategy followed by those investigators was to administer some kind of scale at one time to a large number of students drawn from various classes of the college. Differences between the means of the various classes were then construed by the researchers to indicate whether or not there was any change in the attitude of the students.

The conclusions thus obtained from such cross-sectional studies were definitely not valid since altogether different groups of students were used in making comparisons. Corey (1936) pointed out that those studies failed to consider two important facts: those of drop-out and selective mortality. He suggested, therefore, "the only technique which will give valid data involves the repeated testing of the same students as well as repeated testing of other young people not in college."

Although longitudinal studies started to appear quite early, they were for the most part, using Thurstone attitude scales and the Allport-Vernon-Lindzey Study of Values. Moreover, the time interval between the initial testing and the retesting of a particular group was too short (one year in most cases) to justify any valid and reliable conclusions. Recent studies, however, are more careful and have generally collected longitudinal data after two or four years of college attendance.

An important advancement in the technique for measuring changes in attitudes and values of students has been to employ interview studies to

penetrate beyond the data provided by such psychometric instruments as questionnaires or scales. Freedman (1960b) reported, "it was the opinion of the Mellon Foundation staff that interview studies of Vassar students often revealed a depth of complexity of experience that more objective methods of study had not made quite so manifest."

The problem of research design has been discussed most adequately by Barton (1959) as a reaction to the conclusions of Jacob (1957). Barton raises questions concerning "comparison groups" and points in time in the measurement of the effect of college experiences. There are four main types of design, according to Barton:

- (1) After-only comparison of exposed and unexposed persons.
- (2) Before-and-after comparison of exposed groups only.
- (3) Comparison of groups at different stages of exposure.
- (4) Before-and-after comparison of exposed and unexposed groups.

After-only studies are the least suitable design, for they make "ordinary survey comparisons of college graduates with people of less schooling" (Barton, 1959). The initial differences of the two groups based on socio-economic and parental influences render the comparisons meaningless.

The second type of design, namely, before-and-after comparison of exposed groups only, may measure real changes. But even in this case, maturational effects and cultural changes of the society are likely to bias the results.

This design can be improved by comparing groups at different stages of exposure. The freshmen may be compared with sophomores, juniors, and seniors; and the changes, if any, might be attributed to collegiate experiences. However, the part played by maturation and significant cultural events in influencing students' attitudes and values is not controlled in this design. Besides, selective mortality of students further complicates the problem.

The possibility that students not accepting the values of the institution eventually withdraw cannot be ruled out.

In spite of some limitations, the fourth design appears to be the best because of the inclusion of a "control group". Barton makes an important statement in this connection:

"There are still problems in analyzing the results of such a 'comparative panel study', since the factors which make people select themselves to be exposed cannot all be known, measured, and held constant; but short of an experiment in which college education is randomly given or withheld to some group of young people, it offers the best design."

The concern for a control group in studying personality changes of students has also been voiced by Marquis (1958). He points out:

"A major difficulty in research design is the problem of demonstrating that changes occurring between freshman and senior years may be attributed to college experience. It does not seem feasible to compare a control group of persons similar to college samples but who do not go on to college. The outlook, however, is not hopeless. It is important to generalize about people who do go to college, and even more valuable to study the different kinds of changes in similar students who enter different educational environments."

In the absence of a research design which would also account for the selective alteration of the students, the present investigation makes before-and-after comparison of exposed and unexposed groups. With the exception of the investigations by Plant (1962, 1963), probably no investigator has added "comparison groups" to his studies.

The present study differs from most of the others in the following ways:

(1) Previous research studies have focused on the impact of college attendance by studying only students who completed two or four years of college.

(2) Many of the earlier studies were restricted in that they used as their subjects, students attending private colleges and/or students, who, because of socio-economic background might be considered atypical. It can safely be assumed that students attending a large public institution, such as Michigan State University, represent almost all the shades of social classes.

(3) Most research investigations in this area have used only one or two instruments for measuring students' attitudes and values.

Although the present study is not concerned with students from different colleges and universities, it might be said that it is concerned with differing educational environments. On the one hand, we have studied students in a college setting; on the other hand, we have studied students who are in a society's educational environment.

In regard to the research strategy adopted in this study, attempts have been made to provide control groups by comparing students who remained in college for four years with students who have received less than four years of college education.

In summary, the research on attitudes and values of college students is inconclusive and sometimes contradictory and controversial. Whereas some researchers have indicated that certain programs are more effective than others in modifying values, other researchers reported the converse. While some investigators have reported marked changes in some specific personality trait, other investigators have reported little or no change. Although Jacob (1957) concluded that neither course nor instructors have much impact on student values, Lehmann and Dressel (1962) reported the opposite and suggested

that their findings differ from Jacob for a variety of reasons. No doubt the designs of the studies, the instruments employed, the populations studied, are all factors that might have contributed to the inconclusiveness of research on college students' values.

There is universal agreement both in longitudinal and cross-sectional studies that college seniors differ from college freshmen in their attitudes and values. There is, however, lack of agreement as to the factor or factors responsible for this change -- it could be maturation, knowledge, specific experiences, and so forth. It could well be a complex interaction of a variety of factors. However, there appears to be an increasing amount of evidence which suggests that one's culture, or peer group, or college "press" plays a very important role in shaping attitudes and values. Murray (1956) succinctly states that

"A human being does not grow up in a vacuum: His development is determined not only by the physical environment as the biologist proved, and by family environment as Freud proved, but, as the massive data collected by the cultural anthropologists showed by the larger societal and cultural institutions. . . ."

CHAPTER II

DESCRIPTION OF INSTRUMENTS USED, POPULATION STUDIED, AND STATISTICAL TOOLS USED TO ANALYSE THE DATA

A number of instruments were employed to measure the subjects' attitudes of stereotypy and dogmatism, their value systems, their attitudes towards the importance of college, and so forth. Some of the measures used were commercially available while others were locally constructed specifically for the study. The instruments used will now be discussed in some detail. The major battery refers to those tests that were used both at the beginning and end of the study or only at the beginning, while the minor battery refers to the lengthy questionnaire administered four years after the subject entered Michigan State University as a freshman in the Fall of 1958.

DESCRIPTION OF MAJOR BATTERY

The major battery, that is, those tests administered at both the beginning and the end of the study to those students who enrolled at Michigan State University in the Fall of 1958 as freshmen consisted of the Inventory of Beliefs, Form I; Prince's Differential Values Inventory; Rokeach's Dogmatism Scale; and the College Objectives. In addition, the College Qualification Test, the MSU Reading Test, the MSU English Test, and the Test of Critical Thinking, Form G were administered at only the beginning of the study.

A Test of Critical Thinking, Form G (CT) was developed by the Cooperative Study of Evaluation in General Education of the American Council on Education. This scale consists of 52 objective-type questions and was designed to measure five abilities thought to be involved in critical thinking: (1) defining a problem, (2) recognizing stated and unstated assumptions, (3) selecting pertinent information, (4) formulating and selecting relevant hypotheses, and

(5) drawing valid conclusions. The reliability of the test is .79. The correlation between the Test of Critical Thinking and a measure of general academic aptitude (CQT) is .60 and between the Test of Critical Thinking and freshman-year grade-point-average is .50. The test-retest reliability is .71.

It is readily evident that the Test of Critical Thinking is a relatively stable instrument. In addition, it would appear that this is more a test of ability in the processes involved in critical thinking than a measure of critical or creative thinking, per se.

The Inventory of Beliefs, Form I (IB), developed by the Cooperative Study of Evaluation in General Education of the American Council on Education was used to measure stereotypic beliefs. The fundamental assumption underlying this instrument is that "the objectives of general education can serve as a base from which may be inferred the model organization characterizing the personalities of those most adaptable to the purposes of general education."

This scale consists of 120 pseudo-rational cliches to which the subject is asked to respond by means of a four-element key: strongly agree, agree, disagree, and strongly disagree. Some examples of items are "The best government is one which governs least," "The worst danger to real Americanism during the last 50 years has come from foreign ideas and agitators."

This instrument explores the students' tendency toward (1) ethnocentrism, (2) ideocentrism, (3) sociocentrism, and (4) egocentrism. The inventory is designed to distinguish students who tend to accept stereotypes and who are dependent and rigid in their attitudes and values from those who are more mature in their viewpoints and who tend to be more adaptable in their beliefs and attitudes. Scores can range from 0-120. A high scorer is thought to be mature, flexible, adaptive, and democratic in his relationships with others; a low scorer is immature, rigid in outlook, compulsive, and authoritarian in his relationships with others. The reliability coefficients range from .68

to .95 with a median $r = .86$. The correlation between the Inventory of Beliefs, Form I and (a) the CQT is .30, and (b) freshman GPA is .20. The test-retest reliability is .71.

Rokeach's Dogmatism Scale, Form E (D-Scale), consists of 40 statements with which subjects are asked to agree or disagree along a 6-point continuum. There is no opportunity in this scale to record a neutral position. The score obtained is a measure of general authoritarianism and differs from the California F-Scale which seems to tie authoritarianism with political conservatism, ethnocentrism, and anti-Semitism. According to Rokeach, it is possible to obtain a more accurate picture of the authoritarian personality with his D-Scale than with the F-Scale since the latter scale would classify the authoritarian "leftist" or the relatively unprejudiced authoritarian as non-authoritarian although, in reality, he is authoritarian in his behavior.

High scorers are considered dogmatic and unreceptive to new ideas; low scorers are thought to be flexible, adaptive, and receptive to new ideas. Scores can range from 0 - 280. The reliability coefficient is .76 for the sample of 2,746 freshman at Michigan State University. The test-retest reliability is .60. The correlations between the D-Scale and (a) IB is .63 which suggests that both instruments are measuring essentially similar traits but that some measured by one are not measured by the other, (b) CQT is .17, and (c) freshman-year GPA is .15. It would appear that this is a relatively stable instrument which is not influenced by general academic aptitude to a great extent.

Prince's Differential Values Inventory (DVI) measures the subjects' value orientation. According to Spindler (1955), values can be dichotomized as traditional and emergent. Prince combined some of Spindler's categories to obtain four emergent values: sociability, relativism, present-time orientation, and conformity, and four traditional values: Puritan morality, future-time orientation, individualism, and work-success ethic.

The scale consists of 64 pairs of forced-choice statements. Each pair has a traditional-value item and an emergent-value item. The subject chooses either the traditional-value or emergent-value statement from each of the 64 pairs of statements. Only the traditional-value items are scored and the score places the subject's values along a traditional-emergent value continuum. A high score indicates a leaning toward traditional values -- that is, personal respectability, respect for others, feelings of guilt, self-denial and thrift. A high scorer also values hard work as good in itself and necessary for success, places his personal and individual desires equal to or above the desires of the group (in its extreme form this value sanctions egocentricity, expediency, and disregard for other people's rights but in its healthier form sanctions independence and originality), and is oriented towards the future to the extent that present needs are sacrificed or should be sacrificed for future reward and satisfaction. A low score indicates a leaning toward the emergent end of the value continuum -- that is, towards the personal importance of getting along with others and achieving group harmony, an acceptance of morality determined by the group rather than by any particular source, a questioning of all absolutes, a willingness to allow one's actions to be governed primarily by the consideration of others, and a sacrifice of future goals for present needs. Using Riesman's classification, one might call the traditional values "inner directed" and the emergent values "outer" or "other directed." The scale yields a total traditional-value score as well as subscores for each of the eight sub-scales. Scores can range from 0 - 64. The reliability of the traditional score is .75. The test-retest reliability of the traditional-value score is .70. Since the correlation between the DVI and CQT is negligible, we can conclude that the DVI is a relatively reliable instrument which is not influenced by the factor of general academic aptitude.

The College Qualification Test consists of 200 items designed to measure general academic aptitude. The scale has 75 items which measure verbal ability, 75 items which measure general information items, and 50 items which measure numerical ability. Separate subscores or a total composite score can be obtained. The test manual reports split-half reliabilities of .97 for males and .96 for females (Bennett et al. 1957). Using the split-half method for the MSU sample ($N = 2,746$), a reliability coefficient of .93 was obtained.

The MSU Reading Test, a 45-item test which was developed at Michigan State University, measures the subject's ability to comprehend thoughts expressed in reading passages. The reliability for the population being studied is .79.

The College Objectives test was developed by Kidd and others (1954) and consists of 26 objectives or values (10 vocational-oriented and 16 general-education or non-vocational in orientation) to which the subject responds by means of a 3-element key. The subject indicates for each objective whether its achievement is very important, important, or of little or no importance to him. Two scores can be obtained from this instrument--the value the subject attaches to the vocationally-oriented objectives of higher education, and the degree of importance attached to the liberal or general education aspects of a college education.

MINOR BATTERY

The Senior-Year Experience Inventory³ is a 263-item inventory originally developed by the research staff in connection with another longitudinal study (Lehmann and Dressel, 1962). Minor revisions were made so that it would be appropriate for the control group. This inventory was administered to all

³ Found in the appendix.

subjects four years after they enrolled at Michigan State University as freshmen. The inventory consists of a number of sections -- some items require reactions to the objectives of college, some require the subject to appraise the effectiveness of his college experiences (limited as they might be for some of the subjects who had less than one term's attendance), and some require the subject's views on a variety of current issues such as nuclear testing and the admission of Red China to the U.N. In addition, there are sections where the subject is asked to indicate (by retrospection) the degree to which he may or may not have changed in his personal and interpersonal views, his attitudes, and his values. There is no total score for this inventory although it might be possible to develop one using scaling techniques. However, since greater meaning can often be derived from an intensive item analysis of the data, no scoring procedure was developed insofar as this study is concerned. In addition, only those items for which there was pre- and post-test data (and/or self-perceived changes) were used.

The means, standard deviations, and reliability coefficients for the major battery administered to the population in the Fall of 1958 are presented in Table 1.

DESCRIPTION OF THE POPULATION

The Population Studied

At the beginning of the Fall term, 1958, 2,973 students registered at Michigan State University as new, first-time freshmen (that is, they did not transfer here from another college or university). In addition to the criterion of being a first-time freshman, a further eligibility requirement imposed upon the students to be considered as part of the population was that they be native-born Americans. This factor was deemed necessary for two reasons: first, the language factor involved in the instruments used; and, second, the

The means, standard deviations, and reliability coefficients for the major battery administered to the freshman population in the fall of 1958 are presented in Table 1.

TABLE 1

Means, Standard Deviations, and Internal Consistency Estimates for the Cognitive and Affective Measures on the Freshman Year Pre-Test (Fall, 1958)

Test	Mean*			S.D.			
	Males	Females	Total	Males	Females	Total	r _{tt}
Inventory of Beliefs	62.96	64.77	63.77	14.08	12.84	13.54	.84
Test of Critical Thinking	31.51	31.29	31.40	7.18	7.18	7.15	.79
DVI-Traditional Values	34.67	33.59	34.15	6.93	6.99	6.98	.75
Future Time	9.32	8.92	9.13	2.74	2.72	2.74	.60
Individualism	8.61	9.02	8.81	2.18	2.04	2.12	.41
Puritan Morality	6.92	7.12	7.02	2.46	2.37	2.42	.51
Work Success	9.82	8.52	9.20	2.76	2.73	2.82	.59
Sociability	8.26	9.20	8.71	2.38	2.40	2.44	.48
Conformity	5.27	5.33	5.30	2.41	2.33	2.37	.48
Relativism	7.70	7.77	7.74	2.63	2.71	2.67	.54
Present Time	8.09	8.04	8.06	2.50	2.42	2.46	.57
Dogmatism Scale	168.19	163.56	165.98	25.36	25.47	25.70	.76
MSU Reading	27.04	28.14	27.57	6.40	6.37	6.41	.79
CQT-Vocabulary	44.17	47.31	45.68	12.84	12.22	12.65	.90
Information	50.25	44.31	47.42	9.64	9.52	10.04	.84
Numerical	32.03	24.80	28.58	10.04	9.30	10.35	.90
Total Score	126.46	116.47	121.70	26.28	24.65	25.95	.93

* N_{Males} = 1436

N_{Females} = 1310

N_{Total} = 2746

As indicated earlier, the populations used at various stages as well as the methodology will be considered separately under specific chapter headings.

possible contamination and bias of the data because of prior cultural background factors. Eliminating those students who did not satisfy either of these criteria and those who for one reason or another returned unusable answer sheets, pre-college data for the major battery previously described were available for 2,746 subjects, a figure representing over 92% of the eligible population.

The Experimental Group

The experimental group was originally to have consisted of those students maintaining continuous enrollment in college for each of the three terms over a four-year period. It was soon obvious, however, that many students were withdrawing (more specifically, failing to re-enroll) for one or perhaps two terms after which they would return to school. It seemed unrealistic to eliminate these students from the study since their exposure to college - in this case, the "treatment" - was probably no less pervasive than that of the students enrolling for each of the twelve terms continuously. In addition, we were guided by the fact that these students (those leaving once or twice during their four years at Michigan State University) were, for the most part, leaving after their sophomore year, and previous research (Lehmann and Dressel, 1962) demonstrated that the most marked changes in attitudes and values occurred during the freshman year. Consequently, the experimental group - or "four-year group" as we shall call it - consisted of those students who enrolled and entered Michigan State University in the fall, 1958, were in attendance here for at least nine of the next eleven terms (fall, winter, and spring), and were registered as students during spring term, 1962.⁴

⁴ Students who transferred from Michigan State University and by attendance at another college satisfied these criteria were also considered as part of the four-year-group, for the purposes of data analysis.

Post-test scores for the four-year-group were obtained during spring term 1962 registration (or immediately afterwards). Testing sessions were scheduled during the registration period and the subjects were sent a letter from the President of Michigan State University announcing the purpose of the testing and the nature of the research, and expressing the hope that the student would cooperate in this undertaking. Self-addressed, stamped post cards, announcing the times of the various testing sessions were enclosed with the covering letter. The student was asked to check the time that was most convenient for him and to return the post-card to the investigators. For some students, special testing sessions were organized either in the evening at a central location or during the day in the researchers' conference room. This procedure resulted in usable test data being available for 1,051 students, or 68% of the eligible experimental group.⁵

The Control Group

The control group consisted of those students who enrolled at Michigan State University as freshmen in the fall term, 1958, withdrew from MSU and were not enrolled as full-time students at MSU in the spring term, 1962. Students who transferred to another college were considered as being in the control group unless they had completed the equivalent of 12 terms of college.

Obtaining post-test scores for the control group was obviously a far more difficult task than it was for the experimental group. Addresses were obtained from the registrar's files but the students in the control group were in a very mobile age bracket. It was decided from the outset, to send these test materials to the subjects by a "certified mail, addressee only, return-receipt requested" procedure. This meant that the materials had to

⁵ Does not include those who transferred to, and graduated from another college or university. This group consisted of 46 males and 8 females.

be delivered to the subject only and that a receipt had to be obtained from the addressee indicating receipt of the materials. This receipt was then returned to the research office. If the subject no longer lived at that address, they were automatically forwarded, or, in the case of no forwarding address, returned to the research office. Although this is a very expensive (85¢ + postage) mailing procedure to use, this method had certain advantages: (1) the materials would not fall into the hands of anyone not in the study; this eliminated to a large extent the possibility of the materials being indiscriminately used; (2) the materials could not be accepted by anyone who seriously intended to forward them personally and then forgot to do so, or who, after looking at them, decided their child was not interested; (3) the receipt of delivery, with the subject's signature and current address provided the research staff with addresses that could be used for follow-up procedures, if these were found necessary; and (4) there could be no excuse made that the materials were not delivered. This procedure was the best way known to the research staff to guarantee that the materials would either reach the subject directly or would be returned to the research office.⁶

The test materials with an accompanying letter were sent in a large (9" x 12") envelope. The addresses were typed separately on the envelopes rather than on address stickers. Most were mailed with a metered stamp, although a small sample were sent with regular stamps. Enclosed within each envelope were four articles: (1) a personally-typed letter explaining the nature and purposes of the research, asking the cooperation of the subject in

⁶ Our experience with this method vividly demonstrated the variation among the post offices, carriers, and postmasters throughout the country. In many cases, some of the materials returned as "not deliverable" were resent to another address and completed materials were received from the subject. It was also evident that this method is not worth the added expense over conventional mailing practices since very little can be gained from uncooperative postal officials.

completing and returning the materials, and signed personally by the project director, (2) a small, six-page pamphlet entitled "What Do We Know About the Class of 1962?" which briefly described some of the findings to date, (3) a large, self-addressed, stamped, reply envelope for the return of the materials, and (4) the test booklet entitled "Cooperative Study of Attitudes and Values" containing the instruments previously discussed. The test booklet was self-contained in that within it were directions for the various sections. A box was provided on the front cover which could be checked if the student desired to receive a final copy of the results of the study.⁷

Several weeks after mailing the materials, follow-up letters were mailed to the non-respondents reminding them of the importance of this study and once again asking for their assistance and cooperation. Several weeks after this, a reminder post card was sent to those who still had not yet replied. After a lapse of about two weeks, arrangements were made with several contacts in the larger centers in Michigan to make personal phone calls. Those students outside these centers were sent another reminder. In all, three contacts were made with those somewhat slow in responding.⁸

The total number of respondents with usable test data was 667, which was over 60% of the eligible withdrawal population. This percentage of returns was very encouraging, especially since the last known address in the majority of instances was at least two years old and forwarding addresses are seldom retained by the post office for this length of time. Of the 38% for whom we were unable to gather re-test data, many were never reached, and hence

⁷ Approximately 95% of the subjects indicated that they would like to have the results of the study.

⁸ These personal phone calls appeared to be very conducive to eliciting cooperation and it is recommended that such a procedure be employed where it is feasible.

one might assume that only about 15-20 per cent of those subjects contacted did not participate.⁹ Table 2 contains the data pertaining to sample size for both the experimental and control group, according to sex.

Table 2
Post-Test Sample Classified by Sex

Group	Population Size*		Number Returning Usable Test Material		% Return		Total
	M	F	M	F	M	F	
Control	470	605	269	398	57	66	62
Experimental	966	705	650	484	67	69	68

* Although the 1958 population consisted of 1,436 males and 1,310 females, death and commitment to a mental institution reduced the total number of possible cases for the post-test control group to 467 males and 603 females.

At first, it would appear that the sample size is quite small and might be biased.¹⁰ Although this is true when you have nearly 40 per cent of the population not responding, preliminary analyses indicated that there were no significant differences in initial (1958) critical thinking ability, attitudes, and values between those who responded and those who did not respond. This would suggest that responsiveness to a survey of this type is not related to certain personality characteristics.

⁹ What is most illuminating about this figure is not so much the size of the numbers responding but the very nature of the population. It should be remembered that a sizeable proportion of these subjects were asked to withdraw from Michigan State University for one reason or another. Because of this, we originally anticipated hostility, but our fears were unfounded.

¹⁰ It should also be recalled here that we are dealing with the number of usable results. The number of respondents was much greater than that indicated here, but they had to be removed from the study because of incomplete test data.

Since there are no significant differences in initial variables being studied here, it is possible to generalize the findings to the total control and experimental groups.

Composition of the Experimental and Control Groups

The experimental group consisted of those subjects who had completed (or were completing) ten of the twelve terms either at Michigan State University or at some other college or university.

The control group was divided, for purposes of analysis into three subgroups. Group 1C consisted of those subjects who had less than one year of college attendance; Group 2C consisted of subjects who had more than one but less than two years of college; and Group 3C consisted of subjects who had more than two but less than three years of college. The composition of the three control groups is indicated in Table 3.

Table 3

Composition of the Control Group

Group	Possible Number**		Usable Test Results ⁺			
	Males	Females	Males	N Females	% Males	% Females
1C*	217	243	110	147	51	60
2C	112	212	61	104	54	49
3C	141	150	90	101	64	67
Total	470	605	261	352	56	58

* 1C = 0-3 quarter terms (3 terms = 1 academic year).
 2C = 4-6 quarter terms.
 3C = 7-10 quarter terms.

** These figures include those 5 students who were dead or committed to a mental institution as well as 1 female in a convent.

+ These figures differ from those of the control group in Table 2 because 8 males and 46 females originally in the control group graduated from another college and were considered as part of the experimental group for the purpose of data analysis.

CHAPTER III

Results and Discussion

The material to be presented in this section will deal with the relationship between amount of college education and the degree and direction of change in stereotypic beliefs, dogmatism, and traditional value orientation. In addition to the changes as measured by the inventories (described in Chapter II) between the fall of 1958 and the spring of 1962,¹¹ attention will also be given to the self-perceived¹² changes in attitudes and values as measured by the Senior-Year Experience Inventory. This latter instrument provides data on such matters as interest in current world affairs, tolerance toward other people, and the important goals or objectives of a college education. Although not directly related to change, per se, certain views and opinions of the various groups on a variety of issues e.g. Should Red China be admitted to the U.N.? Should college professors be required to subscribe to a loyalty oath will be dealt with in this section.

Hypothesis I: Four years from the date of initial enrollment in college, there is no significant difference in degree and direction of change in attitudes and values among individuals who have attended college for one, two, three, and four years.

Procedure. Inasmuch as there were significant pre-test differences among the subjects in the four educational groups, (for both the males and the females) analysis of covariance was employed where initial differences among the four groups were controlled or equated. After the appropriate F was computed,

¹¹ Actually, the withdrawal subjects were tested in the late summer and early fall.

¹² Self-perceived is used synonymously with a change that the individual feels he has undergone. We do not have two sets of measures here but only the Ss expressed feelings that they did or did not change, and if they did, in what direction.

the Scheffe method of post-hoc comparisons (Scheffe, 1959) was employed in an attempt to ascertain where the differences actually existed.

Since there were initial sex differences in the variables studied, the data for the males and females were considered separately.

Findings. Tables 8-12 present the results of the analysis of covariance for the Inventory of Beliefs, Dogmatism Scale, and Differential Values Inventory for males and females respectively. Table 10 contains the adjusted mean scores for those measures where a significant F was obtained. Tables 5-11 contain the results of the post-hoc comparisons.

It is readily evident that college education (or college attendance) is not always accompanied by a significant change in attitudes and values. Hence, the amount of college education can not always be used as a criterion to predict the degree and direction of change in stereotypic beliefs, dogmatism, and traditional-value orientation. Consider, for example, that between 1958 and 1962 both males and females became less stereotypic in their beliefs, more receptive to new ideas, more flexible, more open-minded, more adaptive, and less authoritarian. In addition, both males and females had changed in their value orientation by the end of the four year period. However, the amount of college education was not always a characteristic or trait that could be considered responsible or contributory to this change. In fact, the only conclusive (in a statistical sense) findings were as follows:

Table 4

Covariance Analysis of Differential Values Scores for Four Groups of Males

Source	df	SS	Adjusted MS	F
Total	827	40,859.20		
Within	824	38,111.97	46.25	
Between	3	2,747.23	915.74	19.80*

* Significant beyond .05 level.

Table 5

Post-Hoc Comparisons of Differential Values
Inventory Scores for Various Groups of Males

Groups Compared	Mean	S _D	t*	p**
I & II versus III & IV	37.05 32.92	0.74	5.58	<.05
I versus II	37.97 36.18	0.46	3.89	<.05
I versus IV	37.97 32.38	0.88	6.35	<.05
II versus IV	36.18 32.38	0.86	4.42	<.05

$$* t = \frac{\bar{X}_A - \bar{X}_B}{S_D}$$

** The P-value is not the conventional table value with n₁ and n₂df but is computed a priori by a special method found in Scheffe (1959).

1. There is a significant relationship among the four groups of males and the amount of change in traditional-value orientation. Specifically, it would appear that increased college attendance is accompanied by a movement away from the traditional values (of Puritan morality, the meaning of work and responsibility, and a positive attitude and outlook towards the future) and toward the emergent values orientation (of relativism, a present-time orientation, and sociability). Whereas those subjects who had three years or less of college became more traditional-value oriented between 1958 and 1962, those subjects who attended college for four years became more emergent in their value orientation between their freshman and senior year.

2. Post-hoc comparisons for changes in the value orientation for the four groups of males indicated that:

1. Four years after initial enrollment those males who had completed two years or less of college were more traditional-value oriented than their counterparts who had attended college for more than two years.

- ii. Four years after initial enrollment males who had attended college for less than one year were significantly more traditional-value oriented than their counterparts who had completed either 1-2 years or four years of college.

It should be noted further that those males in Group I (less than one year of college) and Group IV (four years of college) underwent a significant change in their value orientation between 1958 and 1962. The significance between the groups stemmed not so much from the magnitude of change by each group, but from the fact that they moved in opposite directions in their value orientation (+2.76 and -2.46 respectively)¹³

Often, in social science research, answers to all problems are not obtained and the result is the formulation of more perplexing questions. So here it can be asked. Why should persons who received only a limited amount of college education have a different value orientation from those who attended college for longer periods? What, if anything, is unique about college experiences (either academic or non-academic) that results in college graduates becoming more emergent-value oriented? Does the uniqueness stem from the mores of the intelligentsia with whom the students associate over a long period of time? Is the uniqueness a function of increased knowledge, that is, does increased knowledge contribute, in part at least, to a more critical examination and a greater modification of existing attitudes, values, beliefs, ideals, and interests? It is the opinion of the researchers that no single factor can be isolated but that the movement of college graduates to the emergent-values end of the value continuum is due to a continual interaction of a variety of factors.

¹³ Whereas those males in Group I, as a group, became more traditional-value oriented, those in Group IV moved in a completely opposite direction toward the emergent-value end of the continuum.

Table 6

Covariance Analysis of Dogmatism Scores for Four Groups of Males

Source	df	SS	Adjusted	MS	F
Total	827	349,577.65			
Within	824	347,939.51		422.26	
Between	3	1,638.14		546.05	1.29

Table 7

Covariance Analysis of Dogmatism Scores for Four Groups of Females

Source	df	SS	Adjusted	MS	F
Total	786	335,133.29			
Within	783	334,399.55		427.07	
Between	3	734.04		244.68	0.57

3. For both males and females, there is no significant relationship between amount of college education and changes in dogmatism, receptivity to new ideas, or an attitude of open-mindedness. Although all four groups of males and females became less dogmatic between 1958 and 1962, there was no one group that changed more markedly than another.

Table 8

Covariance Analysis of Inventory of Beliefs Scores for Four Groups of Males

Source	df	SS	Adjusted	MS	F
Total	827	114,362.65			
Within	824	113,811.42		138.12	
Between	3	551.23		183.74	1.33

4. There is no significant relationship among the four groups of males and the changes occurring in their stereotypic beliefs between the time they were tested as freshmen and then again after four years. Once again, all

four groups became less stereotypic but no one group changed more markedly than another. Why among the female groups there were marked differences in change is a matter of conjecture.

Table 9

Covariance Analysis of Inventory of Beliefs Scores for Four Groups of Females

Source	df	SS	Adjusted MS	F
Total	786	112,702.14		
Within	783	105,996.64	135.37	
Between	3	6,705.50	2235.17	16.51*

* Significant beyond .05 level.

Table 10

Adjusted Post-Test (1962) Scores for Significant F-Ratios

Group	Test	1958 Mean	1962 Mean	Adjusted 1962 Mean
Males-I	Differential Values	35.21	37.97	37.79
II		35.82	36.18	35.74
III		33.88	35.14	35.70
IV		34.84	32.38	32.36
Females-I	Differential Values	34.08	35.26	35.22
II		32.11	32.54	33.43
III		34.50	32.70	32.46
IV		34.23	29.63	29.52
Females-I	Inventory of Beliefs	62.72	68.56	70.02
II		64.35	72.38	72.79
III		64.28	73.89	74.34
IV		65.89	78.58	77.99

Table 11

Post-Hoc Comparisons of Inventory of Belief Scores for Various Groups of Females

Group/s Compared	Mean	S _D	t	P
II versus IV	72.38 78.58	1.33	4.66	<.05
I versus II	68.56 72.38	0.96	4.00	<.05
I versus IV	68.56 78.58	1.32	7.59	<.05
I & II versus III & IV	70.45 77.39	1.20	5.78	<.05

5. There is a significant relationship among the four groups of females and the lessening of stereotypic beliefs between 1958 and 1962. Although the direction of change for all was towards a decrease in prejudice, authoritarianism, and rigidity, the longer a female attended college, the greater the change. In fact, the magnitude of change occurred in a somewhat linear fashion. Some further points worth noting are as follows:

- i. Although the differences between pre- and post-test scores (1958 and 1962) are about the same between Groups I and II, as they are between Groups III and IV, the differences between II and III are much smaller. In other words, it would appear that a temporary plateau is reached between the sophomore and junior-year withdrawals.
- ii. Post-hoc comparisons indicated that increased college attendance was accompanied by a decrease in stereotypic beliefs for the females only. This was found to be true regardless of the type of comparison made. It is further evident that the decrease progressed in a somewhat linear fashion with increased college attendance.

Once again, no definitive answers can be advanced to account for these findings. Some hunches or hypotheses may be expressed, however. One such

hypothesis relates to the nature of the experiences shared by the females in the different groups.

Previous research (Lehmann and Dressel, 1962) indicated that the non-academic experiences play an important role in shaping the attitudes and values of college students. In fact, the data gathered from rather intensive, personal interviews supported that gathered by questionnaires on the point that the contacts made in the living units with people of different races, creeds, colors, and religions, helped modify prevailing attitudes and values. Since it could be assumed that contacts of this nature would be most frequent for those who attended college longest, the obtained association between decrease in stereotypic beliefs and increasing amount of college education would not be unexpected.

One could seek to destroy the reasoning employed here to explain the nature of observed changes and could counter that the changes are due primarily to the acquisition of knowledge, per se. While there is no denying the fact that knowledge might assist in the modification of existing attitudes and values, it is difficult for the researchers to believe that attitudes and values are taught rather than caught. The evidence to date suggests that although knowledge may assist in the modification of attitudes and values, the nature and type of contact play a very important role (Smith, 1955; James, 1955; and McGuigan, 1958).

It should be readily evident that it is very difficult, if not impossible, to isolate a unique factor that would explain attitude and value changes. Because of the impact and continual interaction of a variety of forces -- academic experiences, non-academic experiences, personality makeup of the individual, and so forth -- the researchers must conclude that there are changes

in certain attitudes and values associated with college attendance. But they find no compelling evidence which leads them to find a particular cause.

Table 12

Covariance Analysis of Differential Values Scores for Four Groups of Females

Source	df	SS	Adjusted MS	F
Total	786	34,745.85		
Within	783	31,122.40	39.75	
Between	3	3,623.45	1,207.82	30.39*

* Significant beyond .05 level.

Table 13

Post-Hoc Comparisons of Differential Values Scores for Various Groups of Females

Group/s Compared	Mean	S _D	t	P
II versus IV	32.54 29.63	0.64	4.55	< .05
I versus II	35.26 32.54	0.55	4.95	< .05
I versus IV	35.26 29.63	0.62	9.08	< .05
I & II versus III & IV	33.91 30.41	0.20	17.50	< .05

6. For the females, there is a significant relationship between amount of college education and the degree of change in value orientation. Although the differences among the various educational groups were not too great initially, there were significant differences after four years (even after the four groups were made to be equal statistically).

Specifically, it would appear that the longer a female attended college, the more likely she was to lean more heavily to such values as relativism (in

contrast to absolutism), a present-time orientation, conformity, and sociability. This is especially true for those females who attended Michigan State University for four years. In other words, although the initial difference in value orientation among the four female groups were minimal, the differences among these same subjects were rather marked after four years.

Whereas the females in Groups I and II became either more traditional-value oriented or remained about the same between 1958 and 1962, the converse was true for the females in Groups III and IV.

Post-hoc comparisons indicated that for females, after the sophomore year, the longer one attended college, the more "outer or other-directed" one became. There was, however, some difference between the sexes in respect to the direction of value changes. While those males who had either one, two, or three years of college education became more traditional-value oriented between 1958 and 1962, this was not the case for their female counterparts -- only those females who withdrew during their freshman year became more traditional-value oriented. While those males who withdrew during their junior-year became more "inner-directed", their female counterparts became more "outer or other-directed".

It is conceivable, of course, that the changes were different for the males and females because of the differences in their experiences. This would be especially true if many of the withdrawal females married, with the result that their universe of experiences would be more limited than those of their male counterparts.

In summary, it can be concluded that even after the groups were equated for initial test score (freshman year) differences:

1. For both males and females, there was a significant decrease in stereotypic beliefs between 1958 and 1962. This was true regardless of the length of time one attended college. For the females only, the intensity of

change was related to length of college attendance; that is, there was a significant relationship between amount of change in stereotypic beliefs and college attendance.

2. For both males and females, there was a significant difference in their value orientation between the time they were tested as freshmen and then again four years later. After approximately four years, those males and females who had attended college for about four years became more emergent-value oriented than their counterparts who had only attended college for one, two, or three years.

3. For neither the males nor females in the various college attendance groups were there any marked differences in the change in dogmatism between 1958 and 1962. In other words, although all groups changed in the direction of becoming less dogmatic and more receptive to new ideas between 1958 and 1962, the amount of college education was not related to the extent of change.

4. In those instances where the obtained F was not significant signifying that there was no significant difference among the college-attendance groups in a particular trait after four years (e.g. for the males and females there was no significant change in dogmatism associated with amount of college education), the direction of change was the same for all groups. Combining this with the previous findings, it is seen that regardless of the amount of time an individual attends college, the change manifested over four years is toward a lessening of stereotypic beliefs and an increase in receptivity to new ideas. Needless to say, the change was more marked for some groups (stereotypy for females) than for others. In the area of value change, however, there was no clear-cut pattern evident in direction of change for all groups. Further the males differed from the females in many respects. The only similarity in the direction of value changes for the sexes were for those who attended college for less than one year (became more traditional-value

oriented between 1958 and 1962), and those students who attended college for four years (became more emergent in their value orientation between their freshman and senior year).

These findings appear to be contradictory to some of those presented by Jacob and in agreement with those of Plant. Whereas Jacob (1957) concluded that college graduates appear to manifest a system of behavior that is characteristic of college graduates only, we have seen that some of the withdrawal subjects manifest the same type of behavior as do the college graduates in some instances. Although Jacob concluded that neither courses nor instructors nor method of teaching have any marked impact upon student values (and it might appear that he was correct when one looks at some of the findings presented in this section), the results of this and other studies (Hall, 1950; Lehmann and Dressel, 1962) do not appear to support this view completely. All in all, it would appear that college acts as a catalyst to speed up changes that would ordinarily occur as the individual matures (Plant, 1962). Even if this were the only impact that college has upon student attitudes and values, its importance should not be degraded and minimized.

Views and Perspectives of College Graduates and Withdrawals from College

The material contained in this section pertains to a wide variety of issues, including student reactions to classes and instructors; student views on the goals and objectives of college; their social, political, and economic views; and their conception of a good college teacher.

To ascertain whether there was a significant difference in the opinions of the various educational-level groups, chi-square was employed.

A. A Look at College

Many entering freshmen have the opinion that a college (especially a large state university such as Michigan State) is a large, impersonal institution that is more concerned in dealing with IBM cards than with human beings.

Many students also have the notions (possibly gathered in "scuttlebutt") that college is either very easy or very difficult, that instructors are more research and publication-oriented than student or teaching-oriented, and that the morals on a college campus are often lax and artificial. Some students also have misgivings about the demands that will be made upon them by the faculty, the rigor of academic standards, the quality of instruction, and so forth. At the same time, there is a sizable proportion of entering freshmen who feel that the primary objective of college is to prepare one for a profession or vocation, and that the liberal-arts goals are secondary in importance.

All subjects in the experimental and control groups were asked to respond to six items dealing with their reactions to instructors, classes, grade expectancy, difficulty of college, and their general impression of Michigan State. The instructions were to rate each statement along a four-point continuum with choices of strongly agree, agree, disagree, and strong disagree. Because the initial analysis of data indicated very few responses at either of the extremes, the data were collapsed into two categories -- agree and disagree. Table 14 contains the responses for each of the four groups of males and females and the chi-square value. From this table, the following conclusions appear to be warranted:

1. Although one might have expected to find a marked difference in opinion among the various groups of both males and females with respect to whether their classes were interesting, this was not the case, especially as far as the females are concerned. Despite the fact that over 75 per cent of the subjects in each of the educational groups felt that their classes were interesting, the reactions of the four male groups were significantly different. Those males who attended college for four years were most enthusiastic. Oddly enough, however, the degree of enthusiasm did not diminish in a linear fashion with smaller amounts of college attendance.

Table 14
Reactions of Seniors and Withdrawals to Classes, Instructors, College, and Grades

Statement	Percentage Responding								X ²	P
	Agree				Disagree					
	I	II	III	IV	I	II	III	IV		
Generally, I found my classes pretty interesting.	83 (90)	77 (84)	79 (89)	89 (90)	17 (10)	23 (16)	21 (11)	11 (10)	28.310 (13.926)	<.01 (<.01)
Most of my instructors were enthusiastic about their teaching.	75 (75)	71 (70)	69 (69)	68 (66)	25 (25)	29 (30)	31 (31)	32 (34)	7.632 (6.945)	ns ns
College is not as tough as I thought it would be.	25 (36)	44 (36)	45 (53)	50 (47)	75 (64)	56 (64)	55 (47)	50 (53)	20.030 (28.746)	<.01 (<.01)
Generally, I spent less time on my studies than I thought I would.	50 (47)	60 (52)	61 (48)	44 (43)	50 (53)	40 (48)	39 (52)	56 (57)	29.632 36.294	<.01 (<.01)
Getting good grades does not seem as important now as it once did.	18 (21)	24 (30)	29 (27)	39 (47)	82 (79)	76 (70)	71 (73)	61 (53)	30.674 40.420	<.01 (<.01)
MSU is the kind of school a person should go to if he really wants a good education.	80 (85)	81 (77)	82 (76)	79 (74)	20 (15)	19 (23)	18 (24)	21 (26)	6.593 10.667	ns (<.01)

Males first set of figures; those below in parentheses for females.

Although there was little difference between the observed and expected frequencies¹⁴ for males who attended college for one year or less, this was not so for the other groups. A larger proportion (than would be expected) of males who had either 1-2 years of college or 4 years of college felt that their classes were interesting. The converse was true for those males who withdrew during or at the end of their junior year of college.

It is indeed difficult to explain this phenomenon. Why should junior-year withdrawals feel this way? We might have expected such findings with the freshman and sophomore-year withdrawals, especially if a "sour-grapes" attitude were present. It is conceivable, of course, that those subjects who terminated their college education early are quite realistic and feel that if they had to withdraw because of academic difficulty, it was their own fault and not that of the institution for failing in its objectives. On the other hand the results are in the expected direction when one considers the junior-year withdrawals. No doubt, the majority of them were not required to leave because of academic difficulties but did so on their own volition, and it is quite possible that they left because they felt their classes were uninteresting and did not challenge them.

2. For both males and females, there is no significant difference among the control and experimental groups insofar as their reactions to their instructors were concerned. It would appear, then, for the males at least, that reactions to classes were not accompanied by similar or corresponding ratings on the enthusiasm of instructors. If they had been, we would have found a significant difference among the four groups of males, but we did not find such a difference.

¹⁴ Expected frequencies are used in the statistical sense. We have no true way of ascertaining expected frequencies but can only estimate what they should be.

Once again, the results are slightly perplexing. Why should there have been a fair amount of disagreement between the sexes when reactions to classes were asked for, but little or no difference between the sexes when opinions were asked for regarding the enthusiasm of the instructors? Why should a proportionately larger percentage (of both males and females) of freshman-year withdrawals than of college seniors have rated their instructors as being enthusiastic about their teaching?

If any "sour-grapes" attitude were present (and the complete analysis of data appears to negate this) it was definitely not aimed at instructors but might have been reflected in rating classes (since a significant X^2 was obtained). This is indeed confusing. How can instructors and classes really be differentiated? Is it conceivable that students rate the course material rather than the quality of teaching? Is quality of teaching independent of the enthusiasm on the part of the instructor? Do college seniors as well as former students have a pre-conceived standard of excellence and enthusiasm?

3. On the issue of the difficulty of college work, the findings were in the expected direction. That is, there is a significant relationship between a greater amount of college education and positive response to the item, "College is not as tough as I thought it would be." A proportionately larger percentage of freshman-year withdrawals, in contrast to college seniors, felt that college was more difficult than originally anticipated. We would expect this for the seniors even if they might not truly have felt this way. They were so close to graduation that rationalization might have influenced some of the respondents. This same rationalization might also have been operating for some of the subjects in the withdrawal group.

Once again, there is a difference between the sexes in their response to this item. This difference is evident regardless of the group. Although one could possibly have expected the seniors to attach less rather than more importance to getting good grades since they are nearly through college.

a statistical analysis was not performed, the data shows that a proportionately larger percentage of freshman and junior-year withdrawal females than males felt that college was less difficult than originally anticipated.

As might be expected, the percentage of males that feel that college is more difficult than originally anticipated decreases progressively with length of college attendance. This same trend, however, is not evident for the females.

4. There is a significant difference among the various groups (both male and females) on the question of the previously anticipated amount of time to be spent on studies. Although one might have anticipated finding more college seniors responding that they spent less time on studies than originally anticipated in contrast to freshman-year withdrawals, or the other two withdrawal-groups, this was not so. For example, there was a difference in response to this item between college seniors and their counterparts who entered MSU with them as freshmen but withdrew during the first year. This difference is even greater when comparisons are made between seniors and students who withdrew during their sophomore and junior year. Why should students who withdrew after their freshman year be so different than those who withdrew during their freshman year? Is it conceivable that the former are offering some sort of defense? Why should college seniors have found themselves spending more time on their studies than originally anticipated in contrast to the views of any of the withdrawal subjects?

5. There is a significant difference among the four groups of males (and among the four groups of females) in regard to the importance of getting good grades. Although a proportionately larger percentage of seniors in contrast to students who withdrew from college attached more importance to getting good grades, the reason for this is not too clear. If anything, one could possibly have expected the seniors to attach less rather than more importance to getting good grades since they are nearly through college.

6. For the four groups of males, there is no significant relationship between amount of college education and the image of the quality of education obtainable at Michigan State University. This is another indication that those subjects who withdrew because of academic difficulties or who transferred to another institution still believe in and defend the quality of education at MSU. For the former group, it might be a latent effect that now manifests itself--they feel that they withdrew for reasons other than inferior teaching. For the latter, those who transferred to another institution, their decision to leave might well have been determined by curricular offerings or financial considerations.

For the four groups of females, however, there is a significant difference among the various groups and their image of the quality of education obtainable at MSU. Oddly enough, the longer a female remained at MSU, the more likely she was to have negative feelings regarding the type of school MSU was and the quality of education to be obtained there. Why there should have been such a feeling is not clear since one would have expected these students to leave rather than remain to graduate.

Some of the findings just discussed relate to changes in students' views, albeit self-perceived changes. It is readily evident from the data presented, especially in regard to the difficulty of college, the importance of getting good grades, and the amount of time spent on studies, that these subjects had markedly different views in 1962 in comparison to their views when they entered MSU as freshmen in 1958. This was true regardless of the amount of college education they obtained.

B. Some Further Views on College

This section of the Experience Inventory was specifically concerned with the liberalizing effect of college, satisfaction with grades, future plans and activities, the value of general education courses, ideas of what a college

education should consist, and the impact of friends on behavior. Although the subjects responded to each of the items by means of a 5-element key (strongly agree to strongly disagree), the presence of few cases at the extremes suggested that the responses be classified into "agree, disagree, and no opinion." Table 15 contains an analysis of the responses. From this table, the following conclusions were drawn:

1. Although there is no significant relationship between length of college attendance and the subjects' opinions regarding the liberalizing effect of college, an interesting trend is evident when one looks at the "no-opinion" responses. For both males and females, there is a progressive decrease (in the majority of cases) in the "I don't know" responses with increased college attendance. Although this is prima facie evidence, it does suggest that college assists students in arriving at some decision.

2. There is a significant difference among the four groups of males and females and their satisfaction with their grades. As would be expected, the longer the attendance at college, the greater the satisfaction with grades. Nevertheless, 59 per cent of the females and 69 per cent of the males who were seniors still expressed dissatisfaction with their grades. A probable interpretation is a large proportion of these college seniors realize that they could have done better academically.

3. In regard to their plans and activities in the immediate future, it was evident that for both the males and females, there is no significant difference among the various groups. Although the findings contrasting the freshman-year withdrawals with college seniors are in the unexpected direction, that is, a proportionately smaller number of the seniors are more certain as to the immediate future, this is not the case when one contrasts the seniors' responses with junior-year withdrawals insofar as the males are

Table 15
Some Further Views on College

Statement	Percentage Responding												χ^2
	Agree				Disagree				?				
	I	II	III	IV	I	II	III	IV	I	II	III	IV	
College tends to liberalize one's views.	78 (77)	80 (84)	84 (85)	85 (90)	8 (14)	12 (12)	9 (11)	12 (7)	13 (9)	8 (4)	7 (4)	4 (3)	12.102 17.769**
I am satisfied with my grades.	7 (20)	16 (22)	23 (21)	31 (41)	88 (76)	83 (77)	76 (78)	69 (59)	5 (4)	2 (1)	1 (1)	1 (0)	38.996** 48.977**
I know exactly what I will be doing in the immediate future.	43 (49)	44 (51)	34 (51)	40 (45)	53 (50)	55 (45)	65 (46)	58 (54)	3 (1)	1 (4)	33 (3)	2 (1)	4.160 10.301
All college students should be required to take a series of general education courses.	60 (74)	61 (74)	75 (74)	69 (67)	37 (24)	34 (23)	23 (24)	28 (31)	3 (2)	5 (3)	2 (2)	3 (2)	6.871 17.552**
A college education should place equal emphasis on academic and social development.	67 (72)	59 (60)	70 (63)	69 (57)	33 (28)	39 (38)	28 (37)	28 (43)	0 (0)	2 (2)	1 (0)	1 (0)	4.739 15.207*
My friends have had more impact on my views and beliefs than have courses or instructors.	32 (36)	33 (29)	34 (39)	38 (40)	58 (58)	62 (67)	62 (59)	57 (57)	10 (6)	5 (4)	4 (2)	5 (3)	5.644 6.283

* $p < .05$
** $p < .01$

Note: First set of figures for males. Those below in parentheses for females.

concerned. Why should these males who withdrew from college (excluding the junior-year withdrawals) be more certain of their immediate future than their counterparts who completed college? Most likely the former are quite settled in terms of a vocation and possibly a home whereas the seniors have yet to get a job and begin to make a niche in life.

It is difficult to understand why the females who withdrew from college are more certain of the immediate future than those females who completed their college education. It is conceivable, of course, that these withdrawals are most certain because they are well-established vocationally. On the other hand, it is possible that many of these females were married and hence did not voice uncertainty.

In any event, the most interesting finding is not in the magnitude of chi-square, per se, but in the large proportion of both males and females (over 50 per cent of the females and over 45 per cent of the males), both graduates and former students who did not graduate who are undecided about the future. One might have expected to find a larger proportion who were more certain of their immediate future.

4. For the females, there is a significant difference among the four groups and their opinions regarding the value of general education courses. For the males, however, there does not appear to be any significant difference among the four groups.

Once again, we are faced with a need to attempt to explain these findings. Why should female seniors be less favorably inclined than freshman and sophomore-year withdrawals to recommend that general-education courses be a requirement for all college students, while the converse was true for their male counterparts? Why, for both males and females, did the junior-year withdrawals favor required general education courses more than college seniors? Unfortunately, no answers are available to explain these phenomena.

5. For the males there is no significant difference among the four groups and their responses to the item concerning what a college education should involve. The converse, however, is true for the females. The freshman-year female withdrawals were most inclined to agree that a college education should place equal emphasis on academic and social development, and the female seniors were least inclined to agree. Unfortunately, the wording of this item does not permit one to draw any generalizations as to whether the seniors were more in favor of emphasizing the academic or the social aspects. What is of significance, however, is that nearly 60 per cent of the subjects in each group felt that there should be an equal emphasis rather than a disproportionate emphasis. It is also interesting to note, that there is some disagreement between the sexes in their responses to this item. For the freshman-year withdrawals proportionately larger number of females than males agreed to the item of placing equal emphasis on academic and social development. The converse was true for the seniors and junior-year withdrawals. However, as noted earlier, the wording of the question makes interpretation difficult. One might conjecture, however, that this disparity is due to a difference between the sexes as to where the major emphasis should be placed. For example, we might expect females to stress the social development aspect somewhat more strongly than the males.

6. When asked whether "my friends have had more impact on my views and beliefs than have courses and instructors", there was no significant difference among either the four groups of males or the four groups of females.

Even though there was no significant difference among the various groups, it is of interest to note that the responses for all the groups were in the negative. This would suggest that courses and instructors do have some impact even though when some of these students were asked as freshmen and sophomores

pected. What does this really mean? Do students (about one-third) come to

how influential the peer group was, it was evident that at this stage in their college life the peer group was the most important force shaping their behavior (Lehmann and Dressel, 1962).

The findings raise other questions. Why does a proportionately larger number of females than males (with the exception of sophomore-year withdrawals) feel that their friends have more impact on their attitudes and values than courses or instructors? Is it because the females tend to conform more to the mores and demands of the peer group than the males? Is it because females are more concerned than males with attending college to find a marital partner? Still another question stemming from the findings, is why should a proportionately larger number of seniors (both male and female) in contrast to withdrawals, have felt that their friends had more impact on their behavior than did the formal academic experiences?

These findings are contradictory to those presented by Jacob (1957) who reported that neither courses nor instructors have a marked impact upon student values. It is difficult at this time to explain this contradiction -- a variety of explanations appear to be equally plausible. Nevertheless, the important thing is that these subjects were cognizant of the role of academic experiences upon their behavior.

7. When questioned about the prejudice they encountered at MSU because of social or religious background, it is evident that there is no significant difference among either the four groups of males or the four groups of females, in terms of their responses ("more, less, same" as anticipated). Once again, the nature of the responses makes interpretation difficult. Although about 14 per cent of the males (versus 15 per cent of the females) answered that they encountered more prejudice than originally anticipated, over 30 per cent of each sex group felt that they encountered less prejudice than expected. What does this really mean? Do students (about one-third) come to

MSU with the impression that they or others may be ostracized because of religious and/or social background? If this is so, where did these students obtain this image? Why, for both males and females, did those subjects who withdrew during their sophomore year feel that they had encountered more prejudice than originally anticipated.

While it might be said that the researchers in this study are biased, they nevertheless feel that if any prejudice is practiced (and they do not deny it) it is spotty and is restricted in its most notable aspects to some social fraternities and sororities.

C. Political, Social, and Economic Views

For some time now there has been an implicit assumption held by many persons that college students are self-centered, conservative, apathetic, and social-oriented. If this is true, and if it is believed that those who do not attend college do not manifest these traits to the same degree as college students in general, and college graduates specifically, then we would expect to find some differences among students who attended college for varying periods of time.

The responses to a variety of social and political items are presented in Table 16. For the purpose of this analysis, the strongly agree and agree responses were considered as one category, the strongly disagree and disagree responses were considered as another category, and the "no opinion" responses as a third. The data for the sexes were analysed separately by chi-square. From this table, the following conclusions appear to be warranted:

1. For the males, there is no significant difference among the four groups in their opinions regarding the admission of Red China to the U.N. If one feels that agreement to this item is indicative of a liberal attitude, it would appear that on the surface college seniors are more liberal than

Table 16

Social, Political, and Economic Views

Statement	Percentage in each group who										x ²	P	
	Agree				Disagree				?				
	I	II	III	IV	I	II	III	IV					
Red China should be admitted to the 27* U.N.	21	30 (23)	32 (29)	36 (41)	67 (67)	66 (64)	59 (60)	55 (48)	6 (12)	4 (13)	9 (11)	9 (11)	5.931 ns (27.278)(<.01)
The United States should prevent known communists from entering or visiting this country.	45 (46)	42 (38)	29 (27)	29 (27)	52 (48)	58 (58)	68 (68)	69 (69)	3 (6)	0 (4)	3 (5)	2 (4)	12.984 <.01 (20.223)(<.05)
Communists should not be permitted to speak on our campus.	50 (53)	42 (47)	33 (31)	26 (26)	45 (42)	56 (49)	65 (64)	71 (71)	5 (4)	2 (4)	2 (5)	3 (3)	23.776 <.01 (41.433)(<.01)
Medical care for the aged should be provided by the Federal government.	62 (53)	50 (58)	61 (52)	67 (67)	32 (34)	38 (37)	33 (39)	26 (26)	6 (13)	12 (5)	6 (9)	6 (8)	11.623 ns (20.461)(<.01)
The United States should continue nuclear testing in the atmosphere	63 (52)	55 (48)	62 (45)	66 (39)	37 (38)	44 (39)	32 (45)	31 (55)	0 (10)	1 (13)	6 (10)	3 (6)	10.976 ns (21.134)(<.01)
Petting and deep-kissing are appropriate sex outlets for unmarried college students.	55 (20)	59 (35)	58 (29)	67 (44)	40 (70)	33 (61)	39 (62)	27 (49)	5 (10)	8 (4)	3 (9)	6 (7)	13.113 <.05 (27.981)(<.05)
A person in a skilled trade is worth as much to society as one in a profession.	87 (92)	86 (91)	76 (89)	70 (75)	12 (6)	11 (8)	20 (10)	27 (22)	1 (2)	3 (1)	4 (1)	3 (3)	17.601 <.01 (32.786)(<.01)
I wouldn't hesitate to take a towel as a souvenir from a hotel in which I stayed.	30 (44)	41 (31)	36 (43)	43 (42)	58 (47)	45 (50)	57 (48)	48 (48)	12 (9)	14 (11)	7 (9)	9 (10)	8.212 ns (5.154) ns

* First set of figures for males. Those directly below in parentheses for females.

their counterparts who only attended college for a limited time. However, the proportions agreeing (or disagreeing) among the four groups are not significantly different.

The fact that 9 per cent each of the college seniors and junior-year withdrawals stated they had "no opinion" in contrast to 6 per cent and 4 per cent of the freshman and sophomore-year withdrawals suggest (in the light of the non-significant chi-square) that college does not always result in students forming an opinion on any given particular issue. This is true even though the issue might be controversial and has been in the limelight for some time.

There is a significant difference among the four groups of females in their opinions regarding the admission of Red China to the U.N. Although the majority of both males and females (regardless of the amount of time spent at college) were not in favor of admitting Red China to the U.N., there nevertheless was a marked difference of opinion among the various female groups. Whereas the female, freshman-year withdrawals had a proportionately smaller percentage in agreement, the female seniors had the largest percentage agreeing that Red China should be admitted to the U.N. In fact, the percentage agreeing increased progressively with length of college attendance.

The data indicate that all three withdrawal groups differed little in their opinions on this issue but that the female seniors differ markedly from all of the withdrawal groups. Why this was so is not too clear. Did college result in these females becoming more realistic, more liberal, and more tolerant? If so, why did these changes take place in the females but not in the males? Is it conceivable that the females changed because initially (in terms of their 1958 scores) they were more tolerant and receptive to new ideas than their male counterparts? If this is the case, then is it the impact of college or the initial personality disposition of the individual that is important and deserves further consideration?

2. For both males and females, there is a significant relationship between length of college attendance and expressed views as to the desirability of permitting known communists to enter or visit our country. In fact, this is one of the few items in the whole inventory where there was a high degree of similarity between the sexes in each of the college attendance groups.

The researchers are unable to explain the marked difference in responses not only to this item but also the differences in degree and intensity of feeling on this item in contrast to the item dealing with the admission of Red China to the U.N. Why are seniors more liberal than their counterparts who have had less than two years of college? Does college really "liberalize" one's views and if so, how? Why are some views "liberalized" but not others? These are questions which deserve further study.

3. For both the males and females, there is a significant difference among the various educational groups and their opinion regarding the presence of communist speakers on a college campus. As would be expected, the longer a student has been away from college, the more likely he (or she) was to feel that communists should not be permitted to speak on a college campus. The researchers feel that these findings are in the expected direction because prior evidence suggests that seniors are more tolerant and respectful of the opinions of others than are freshmen. This is not to imply that college seniors are in agreement with the views of others but only that these seniors feel others are entitled to their views and that they should be given an opportunity to speak their views.

At first, this finding appears to be contradictory to the statement made above when reference was made to known communists being permitted to enter or visit our country. In reality, however, the two findings are not contradictory because the issues involved are basically different. Whereas one refers to the opportunity of communists coming to this country and spreading their views

by subterfuge, the other only involves communists speaking to college students. No doubt, many of these students are apprehensive about communists coming to this country and engaging in espionage or other like activities.

4. For the males college education (or at least the amount of time spent at college) is not significantly related to one's opinion regarding the provision of medical care for the aged by the Federal government. Although the findings might have been expected, the nature of the relationship was not in the expected direction. Normally, one would have assumed that those students who withdrew during their freshman year would be more in favor of federally financed medicine than the other groups because the freshman-year withdrawals would more than likely have parents in the laboring class who would benefit most (next to the unskilled laborers and unemployed). At the same time, employing this reasoning, one might have expected to see college seniors least favorable to this type of medical care for the aged. However, the seniors were most favorably disposed. For the males, the sophomore-year withdrawals were least favorable, and for the females the junior-year withdrawals had the largest proportion voicing disagreement.

For the females, college attendance is significantly related to one's opinion regarding provision of medical care by the Federal government.

5. There is no significant difference among the four male groups in their opinions regarding the continuation of nuclear testing in the atmosphere by the United States. This finding is rather unexpected in the light of some of the previous findings. Once again more questions are raised than answered. Why should there be a significant difference among the four groups of males in their opinions regarding the admission of communists to the country but no marked difference in the opinions among the Ss of the same four groups regarding the admission of Red China to the U.N.? Is it conceivable that the latter issue appears to be more threatening than the former? Yet the intensity of

commitment appears to be much larger in the former even though the chi-square is not significant. Regardless of the fact that the amount of college education does not appear to be related to the type of response given, it is still interesting to note that with the exception of the sophomore-year withdrawal males (55 per cent), over 60 per cent of the subjects in the other three groups felt that the U.S. should not discontinue atmospheric nuclear testing.

For the females, however, the findings are in the opposite direction. There is a significant difference in opinion regarding the continuation of nuclear testing in the atmosphere among the subjects in the four groups. The data suggest that the longer she attends college, the more likely a female is to disagree with the statement. In other words, those females who withdrew during their freshman year were the group most in favor of the United States' continuing atmospheric, nuclear testing while college female seniors were least favorably disposed.

Why should there have been a significant difference of opinion among the female groups but not the males? Why should the sex difference have been more marked for the junior-year withdrawals and seniors than for either the freshman or sophomore-year withdrawals? Why should the proportion of females who had no opinion be markedly greater than the proportion of males who had no opinion? Why should a proportionately larger number of females than males have felt that the U.S. should cease nuclear testing in the atmosphere?

It is difficult indeed to attempt to explain any of these questions in a clear-cut fashion. Human behavior in itself is difficult to understand and attempting to explain sex differences is even more difficult. A possible answer for these findings might be related to the bearing of children by women. It is conceivable a continued high level of strontium 90 as well as other by-products of nuclear fission might result in birth deformities. Even though males are concerned about this, they no doubt are less concerned than

their female counterparts who must carry and deliver children. This fear of birth defects due to radiation might explain why females are more adamant in their views to discontinue nuclear testing.

6. For some time now, the moral standards of our adolescents and especially college students have been a major source of attention (and sometimes controversy) of psychologists, sociologists, anthropologists, and "news-happy" periodicals and newspapers. Although the findings of this study indicate that for both males and females there is a significant relationship between amount of college and liberality or relativism concerning "how far it is proper to go in love," it is interesting to note that there are marked sex differences among the various groups. Whereas over 50 per cent of the males in each of the four groups did feel that deep-kissing and petting are appropriate sex outlets for unmarried college students, the proportion of females holding this view ranged from 20 to 44 per cent. For both males and females, the data suggest that the longer one attends college, the more liberal one becomes. It is difficult, however, to say that this is a "cause-and-effect" relationship. It is also difficult, if not impossible, to say that college results in students becoming less moral. It should be remembered that these subjects were not queried as to whether they engaged in these activities but only whether they agreed or disagreed with petting.

Judging from the material gathered in interviews with some of these students, one could conclude that college experience results in students becoming more liberal and tolerant of unconventional dress, behavior, and manners; more relativistic; and more open-minded. Hence, the findings are not in the unexpected direction, but they should be interpreted with caution lest erroneous conclusions be drawn.

7. There is a significant difference for both the males and females between amount of college attendance and the image held of the skilled laborer

versus the college graduate. As would be expected, those students with lesser amounts of college education were more inclined to agree with the statement, "A person in a skilled trade is worth as much to society as one in a profession", than were those with more college education. Although college seniors appear to become more tolerant, more open-minded, and less conventional as they move from their freshman to senior year, it still appears that the majority of college seniors feel that they are superior to and more worthy than the laborer.

8. Although the term honesty has varied connotations, one might have anticipated finding very little difference among the various educational groups (both male and female) in their opinions regarding the practice of reporting another student seen cheating on an examination. A non-significant chi-square was actually obtained. But the proportion of subjects in each of the four groups agreeing that "a student should report another student cheating on an examination" leaves much to be desired. Less than 50 per cent of the different male and female groups agreed. In addition, the difference between the sexes was quite marked for all groups with the exception of the seniors where there was little difference between the proportion of males and females agreeing (or disagreeing) with the statement. Why the sex difference is progressively less marked as one moves from one group to another is not too clear.

It would appear that students and former students do not consider cheating on an examination synonymous with honesty. And yet, some of the remarks made by students in the interviews suggest that this is a game and one should not be a "stool pigeon."

"Only if it resulted in me getting a C or D because of the normal curve being disrupted."

"It's a challenge. If you can get away with it, O.K."

In summary, it would appear that the amount of college education bears a relationship to some selected political, economic, and social views but no relationship to other views. In some instances, the findings are in the expected direction while in others the converse is true. Inasmuch as the sampling of items in this study is narrow in scope, it is not possible to conclude that these seniors became more or less conservative in contrast to their counterparts who began college with them as freshmen at MSU in 1958 but withdrew before graduation.

D. A Look At Professors

What views do college seniors hold of the college faculty? Are faculty considered to be staid, conservative, liberal, easy-going, research-oriented or student-oriented? Should college professors be given unlimited academic freedom? Should faculty members be required to take a loyalty oath? What characterizes the good college teacher? Do former college students who did not graduate hold the same views as college seniors, that is, does the amount of college education bear any significant relationship to these views? Are the sexes similar or different in the image they hold of the college faculty? These are some of the questions asked in the Experience Inventory.

College freshmen, to a large extent, have a rather drastic misconception of the typical or average college professor. Students, when they first arrive on campus, picture the average faculty member as very conservative and staid. They see him as being completely absorbed in his own thoughts with little or no concern for the student, especially if this concern interferes with the publishing of articles and research papers. They picture the faculty as being more concerned with research and publications than with teaching.

Although the subjects responded to each of the 15 items characterizing a good college teacher in terms of a 4-point continuum -- strongly agree, agree, disagree, and strongly disagree -- the data were combined to yield

only two categories -- agree and disagree. The responses of the four groups of males and females are presented in Table 17 with the accompanying chi-square computations. From this table, the following conclusions may be drawn:

1. For both males and females, there is more similarity than difference among the various education groups and their conceptions of those characteristics that go to make a good college teacher. All groups exhibited a fair degree of agreement and conceived a good college teacher as one who is willing to discuss a student's career plans, really knows his field, judges or grades students on objective criteria, makes his students produce, and does not attempt to indoctrinate his students in a particular political, ideological, or religious belief.

When asked to rate the good college teacher as one "who judges a student on his work and not on how he dresses or looks," it was readily evident that both males and females, regardless of the amount of time spent at college, thought that students should be judged and graded according to objective criteria. They did not think that extraneous and irrelevant criteria such as looks and dress should enter into the assignment of a grade. Although there was a significant difference in opinion among the four male groups, there was little difference in opinion among the four female groups. For some reason or other, the male sophomore-year withdrawals had the highest proportion disagreeing while there was little difference among the other two withdrawal groups or seniors. Whether or not these sophomore-year withdrawals felt that criteria other than assignments and grades should be used to evaluate student progress can only be inferred at this time.

3. While over 85 per cent of the males and females in each of the groups felt that a good college teacher makes his students produce, only differences among the four male groups are significant. The freshman-year male withdrawals were not as enthusiastic about this characteristic or trait as were subjects

Table 17

Characteristics of a Good College Teacher

A good college teacher....	Percentage in each group responding								P	
	Agree				Disagree					
	I	II	III	IV	I	II	III	IV		
									χ^2	
is active in civic affairs.	67 (73)	84 (74)	75 (75)	76 (70)	33 (27)	16 (26)	25 (25)	24 (30)	5.234 (2.012)	ns
is active in campus activities.	85 (89)	89 (86)	82 (83)	85 (77)	15 (11)	11 (14)	18 (17)	15 (23)	1.557 (10.336)	ns <.05
is willing to discuss a student's career plans.	97 (97)	95 (100)	96 (97)	99 (99)	3 (3)	5 (0)	4 (3)	1 (1)	6.878 (2.956)	ns
is willing to discuss a student's personal problems.	70 (73)	73 (82)	82 (67)	80 (73)	30 (27)	27 (18)	18 (33)	20 (27)	5.000 (6.556)	ns
is a person who can teach in an entertaining manner.	82 (74)	83 (79)	88 (77)	90 (79)	18 (26)	17 (21)	12 (23)	10 (21)	5.328 (1.522)	ns
is someone who sticks to teaching and does not act as a "buddy" to students.	50 (43)	61 (50)	45 (50)	48 (51)	50 (57)	39 (50)	55 (50)	52 (49)	5.282 (2.145)	ns
is active in religious affairs	61 (64)	64 (53)	48 (55)	57 (47)	39 (36)	36 (47)	52 (45)	43 (53)	6.491 (11.925)	ns <.05
is someone who really knows his field.	97 (100)	97 (100)	97 (99)	99 (99)	3 (0)	3 (0)	3 (1)	1 (1)	4.606 (1.640)	ns
does not give out a lot of reading assignments.	18 (9)	22 (10)	19 (10)	24 (17)	82 (91)	78 (90)	81 (90)	76 (83)	2.095 (7.782)	ns
is willing to help students decide on how they should stand on things like politics and religion.	20 (14)	20 (20)	24 (15)	22 (25)	80 (86)	80 (80)	76 (85)	78 (75)	3.363 (9.949)	ns <.05

Table 17 (cont'd.)
Characteristics of a Good College Teacher

A good college teacher.....	Percentage in each group responding								χ^2	P
	Agree				Disagree					
	I	II	III	IV	I	II	III	IV		
is someone who judges a student on his work and not on how he dresses or looks.	97 (97)	86 (98)	94 (99)	96 (99)	3 (3)	14 (2)	6 (1)	4 (1)	15.518 (2.264)	<.05 ns
is someone who really makes students produce.	85 (98)	90 (94)	90 (95)	94 (96)	15 (2)	10 (6)	10 (5)	6 (4)	9.694 (2.642)	<.05 ns
is someone who is willing to give the student a break when the student doesn't do his work.	13 (8)	16 (14)	28 (24)	14 (26)	87 (92)	84 (86)	72 (76)	86 (74)	(14.331) (21.400)	<.05 <.01
permits students to take part in deciding the course objectives.	61 (69)	52 (68)	59 (68)	54 (65)	39 (31)	48 (32)	41 (32)	46 (35)	4.489 (8.409)	ns <.05
does not attempt to indoctrinate his students in a particular political, religious, or ideological belief.	99 (97)	95 (94)	96 (97)	94 (94)	1 (3)	5 (6)	4 (3)	6 (6)	3.761 (2.582)	ns ns

First set of figures for males. Those in parentheses for females.

in the other groups. Possibly the fact that their college attendance was more limited might account, in part at least, for this feeling. Why this is so for the males but not the females is unclear. Even though there is no significant difference among the four female groups, it is interesting to note that over 90 per cent of the subjects in each group felt this was an important characteristic of a good teacher.

Students and former students are not always adverse to work provided the work assigned appears to have some rationale or meaning. Even if it appears to some faculty members and lay-people that students are frivolous and at times tend to be lazy, students desire a teacher (and often respect him more) who really makes his students produce. At the same time, however, these subjects were quite emphatic in their view that the instructor should have a thorough grasp of his subject matter.

Oddly enough, a larger proportion of males than females wanted a teacher who not only is competent in his field, but who can teach in an interesting manner. In other words, they did not want a thespian or "ham" who is ill-prepared, but would like the lectures to be interesting, lively, and thought-provoking.

4. As would be expected, the longer one attended college, the more inclined he was to regard a good college teacher as a "good Joe" who occasionally gives students a break even though they might not deserve it. This feeling was shared by both the males and females, though to differing degrees. We would expect the freshman-year withdrawals to react differently for a variety of reasons. In terms of the findings, it could be reasoned they were not at college long enough to face this problem, or perhaps they were forced to leave college because of not producing and hence felt that others should also be penalized.

One has to believe in what they wish and to have academic freedom, but that at the same time they should not use this academic freedom in a "brainwashing" fashion.

It is difficult to understand why the male junior-year withdrawals had the largest proportion agreeing with the statement in contrast to the slight difference among the other male groups. If anything, we would have expected to find the largest proportion of either freshman-year withdrawals or seniors characterizing the good college teacher as one who "gives the student a break".

5. It is indeed difficult to characterize a good college teacher. There have been numerous studies made in an attempt to do just this but the results are often conflicting. Nevertheless, it is evident from the analysis of this study that the perception of a good college teacher differs little among subjects with varying amounts of college attendance. These students and former students were very adamant about certain things. Although they differed on whether or not "college professors should be allowed to subscribe to any religious, ideological, or political belief they wish", (see Table 18) these same subjects agreed overwhelmingly (94 - 99 per cent) that college teachers should not attempt to indoctrinate their students in a particular political, religious, or ideological belief. Although these subjects readily admitted to changes in their attitudes, values, beliefs, and interests, and conceded that college tends to liberalize one's views, they felt that these changes did, and should, come about as a result of experiences rather than from an overt indoctrination by the faculty. In fact, the majority of both males and females in the various groups felt that a good college teacher is not one who is willing to help students decide on how they should stand on things like politics and religion.

At first, it would appear that a double-standard was operating, but in reality this was not the case; it was not a matter of sanctioning this but not sanctioning that. It was only a matter of believing that professors should have the right on the one hand to believe in what they wish and to have academic freedom, but that at the same time they should not use this academic freedom in a "brainwashing" fashion.

6. The three statements characterizing a good college teacher which were rated "agree" by less than 30 per cent of the subjects in each of the groups were markedly different in orientation. One was concerned with a small amount of reading assignments. Another dealt with the "bailing out" of a student, or better still giving him a break occasionally even though the circumstances did not warrant it. Another was concerned with allowing the students to believe in what they wished.

It is interesting to note that for both males and females, for students and former students, and for individuals varying in the amount of college attendance there was much homogeneity in their concepts of what makes a poor as well as a good college teacher. These seniors and withdrawals, regardless of sex and amount of college education did not characterize a good college teacher as one who attempts or who is willing to help students decide on how they should stand on such things as religion and politics; they generally did not think that a teacher is a good teacher because he is willing to give the student a break when the students doesn't do his work; nor did they think too highly of the teacher who does not freely associate with his students.

In summary, we can say, that for the most part, a good college teacher was characterized as

A person who is active in both civic and campus affairs; is willing to discuss a student's career plans and/or personal problems but, at the same time lets the student make the final decision regarding politics and religion. He is well-versed in his subject matter, teaches in an entertaining manner, makes his students produce, and grades rather objectively.

When these seniors and former students who did not graduate were questioned further about the faculty, it was seen that over 40 per cent felt that college professors, on the average, tend to be conservative while anywhere from 28-52 per cent felt the opposite. At the same time, with the

Table 18

Perception of the Faculty by Seniors and Withdrawals

Statement	Percentage in each group responding												X ²
	Agree				Disagree				?				
	I	II	III	IV	I	II	III	IV	I	II	III	IV	
College professors should be allowed to subscribe to any ideological or political belief they wish.	38 (52)	50 (51)	60 (61)	64 (71)	58 (44)	48 (46)	36 (38)	34 (27)	3 (4)	2 (3)	4 (1)	2 (2)	22.466*
College professors should be required to take a loyalty oath.	48 (33)	41 (31)	32 (24)	35 (31)	37 (54)	58 (60)	61 (73)	61 (65)	15 (13)	2 (9)	6 (3)	4 (4)	23.677*
College teachers, on the average, tend to be conservative.	62 (48)	53 (50)	50 (48)	47 (42)	28 (36)	31 (41)	42 (45)	43 (52)	10 (16)	16 (9)	8 (7)	10 (6)	12.433
													21.561*

77

First set of figures for males; those below in parentheses for females.

* Significant beyond the .01 level.

exception of freshman-year withdrawals, at least 50 per cent in all of the groups said that college professors should be allowed to subscribe to any ideological or political belief they wish, and only about 40 per cent of the subjects felt that college teachers should be required to take a loyalty oath. These points will now be considered in slightly greater detail.

For some time now, there has been growing concern among some faculty members and professional organizations that the academic freedom of the college professor is being thwarted and in certain instances denied. When these seniors and former MSU students were asked whether "college professors should be allowed to subscribe to any political or ideological belief they wish," it is evident from the data presented in Table 18 that college seniors were most liberal in this respect while freshman-year withdrawals were most conservative in their opinion. In fact, there was a progressive increase in liberalism for males, and almost for females, as one moves from the freshman to senior groups. The findings are in the expected direction. Even though there was no significant difference in the degree and direction of change among the four groups of males in terms of stereotypic beliefs, prejudices, authoritarianism, and open-mindedness, there was a definite improvement in critical thinking ability, objectiveness, and rational thinking from the freshman to senior year (Lehmann and Dressel, 1962). This being the case, we might or should expect seniors to be more liberal in their views than non-college graduates. Putting it another way, we should expect that seniors (because of more opportunity to interact with the faculty than withdrawals) would begin to understand that both sides of a coin must be shown before a decision is arrived at.

Along the same line, it was evident that a larger proportion of freshman-year withdrawals would have required the faculty to take a loyalty oath in contrast to the proportion of seniors who felt this way. The trend here is

slightly reversed (at least for the males) in that there is no progressive decrease. point continuum, responses were collapsed and considered as "active,

A point of interest pertains to the number of individuals who had no opinion. Oddly enough, the largest proportion of "no-opinion" responses came from the freshman-year withdrawals. This was true for both males and females. who responded "none" is smallest while the freshman and/or sophomore-

year For the males, with the exception of college seniors, over 50 per cent of each group felt that college professors, on the average, tend to be conservative. However, there was no significant difference in opinion among the four male groups in their response to this item. The differences for the females however, are significant. The withdrawal females inclined toward the belief professors tend to be conservative whereas the majority of female seniors felt the opposite. is civil groups. These findings, however, are in the

exp With respect to academic freedom, it would appear that these subjects generally felt that faculty members should not be required to subscribe to any test of their morality, integrity, or devotion to the principles of the Constitution. However, as discussed in a previous section, the subjects, both male and females, did not want any instructor to attempt to indoctrinate them in a particular religious, political, or ideological belief. In other words, these students, regardless of sex and amount of college education, demonstrated a "live and let live" philosophy in this regard. and in responses

E. Participation in Community Activities it might be due, in part at least,

to One section of the Experience Inventory requested the respondents to indicate their degree of participation in community activities. Although the question was worded in terms of future participation (and it is conceivable that the respondents might actually behave differently than they responded), it was felt that it would be of value to learn about the relationship between the amount of college education and degree of participation in

community activities. Once again, because of the few cases at the extremes of the 5-point continuum, responses were collapsed and considered as "active, not very active, and none". The responses to the various items are presented in Table 13. The following conclusions appear to be warranted.

1. In nearly every case, for both males and females, the proportion of seniors who responded "none" is smallest while the freshman and/or sophomore-year withdrawals had the largest proportion indicating that they would not be participating. Even so, a large number in each of the groups hopes to participate (even if their degree of participation is limited) in various community endeavors.

2. For the males, there is no significant relationship between length of college attendance and degree of participation in local politics, scouting, men's clubs, and charitable civic groups. These findings, however, are in the expected direction when one considers that participation in any of these (with the exception of scouting) is more related to financial resources than to college education, per se.

For the females on the other hand, there is a significant difference among the four groups and the extent of their participation in local politics. College seniors had the highest proportion and sophomore-year withdrawals had the lowest proportion indicating active participation.

One might wonder why there is a marked sex difference found in responses to this item. The researchers feel that it might be due, in part at least, to a difference in definition of the term "local politics". Whereas males might construe being active in local politics as holding some form of elected office, females might consider that working on a phoning committee or having a "kaffe-klatsch" are synonymous with being active. This being the case, it is not unexpected that sex differences were observed since many women are "active" in the sense of being loyal workers in their political party.

Table 19

Degree of Participation in Community Activities

Activity	Percentage in group responding												X ²
	Active				Not very active				None				
	I	II	III	IV	I	II	III	IV	I	II	III	IV	
Local politics	32 (24)	32 (18)	43 (24)	42 (31)	60 (67)	59 (77)	49 (64)	51 (64)	8 (9)	9 (5)	8 (12)	7 (5)	5.394 14.564*
Church activities	58 (64)	44 (59)	38 (61)	52 (61)	33 (32)	49 (36)	59 (35)	43 (36)	8 (4)	6 (5)	2 (4)	5 (3)	17.615** 11.684
PTA	43 (73)	46 (75)	51 (70)	56 (79)	48 (17)	35 (19)	40 (21)	35 (16)	8 (10)	19 (6)	9 (9)	9 (5)	11.618 7.542
Scouting	30 (47)	33 (33)	35 (44)	38 (39)	53 (36)	41 (40)	49 (31)	48 (43)	17 (17)	25 (27)	16 (25)	13 (18)	8.444 13.982*
Chamber of Commerce	17 (7)	19 (11)	30 (7)	40 (9)	62 (65)	52 (70)	41 (68)	43 (67)	22 (28)	29 (29)	28 (25)	17 (24)	30.865** 5.980
Men's or Women's Clubs	38 (45)	43 (47)	50 (51)	49 (50)	42 (42)	43 (35)	35 (32)	40 (37)	20 (13)	14 (18)	16 (17)	11 (13)	8.067 7.794
Charitable Civic groups	25 (48)	17 (35)	27 (38)	34 (50)	53 (38)	64 (48)	54 (41)	54 (36)	22 (14)	19 (17)	19 (21)	14 (14)	12.563 15.491*
Country Club	22 (20)	21 (30)	40 (32)	48 (35)	58 (54)	56 (52)	39 (42)	40 (44)	20 (26)	23 (18)	21 (26)	12 (21)	35.653** 12.688
Cultural groups (Art. Music, etc.)	13 (30)	24 (39)	33 (53)	39 (72)	63 (44)	52 (41)	48 (30)	46 (20)	23 (26)	24 (20)	19 (17)	15 (8)	35.595** 91.943**

First set of figures for males; those below in parentheses for females.

* $p < .05$ ** $p < .01$

3. For the males, but not for the females, there is a significant relationship between participation in church activities and amount of college education. Although the fact is that seniors felt they would play less of an active role than the freshman-year withdrawals, the seniors had a higher proportion indicating active participation than did the sophomore and junior-year withdrawals. Why the junior-year withdrawals had the smallest proportion indicating that they would take an active part in church activities is not too clear. What is evident, however, is that college attendance need not result in a marked decline in participation in church activities.

Even though there is no significant difference among the four female groups in the degree of future participation in church activities, it is readily evident that about 60 per cent in all four groups indicated that they planned to take an active role in church activities. As would be expected, the females were more predilected to participate in church activities than were their male counterparts. This does not imply, however, that one sex or the other is more religious-oriented.

4. For both males and females, there is no significant difference among the various educational groups and the degree of participation in PTA activities. For the males, as amount of college education increased, there was a progressive increase in the proportion indicating active participation. Although the female seniors had a larger proportion than the female freshman-year withdrawals indicating participation, the increase was not progressive.

For the males, the freshman-year withdrawals had the smallest proportion indicating active participation, (for the females, it was the junior-year withdrawals) while the converse was true for the seniors. As would be expected, there were marked sex differences -- the females at all levels indicating more active participation than their male counterparts.

5. For both the males and females, there is a significant relationship between amount of college education and degree of participation in such activities as the country club and cultural groups. As would be expected, the females were more inclined to support the cultural groups while the males were predisposed to support the country club. While freshman-year withdrawals had the lowest proportion indicating active participation, the seniors had the highest proportion indicating that they would actively participate in these activities.

The findings related to this section of the Experience Inventory -- that is, to the degree of participation in local community activities, are in the expected direction. There is a tendency for those with more college education to be active in such organizations as the country club and cultural groups. The opposite trend, namely, no relationship between amount of college education and active participation was found to be present for the PTA and the men's or women's clubs. In addition, there were certain trends evident for the males but not for the females and vice versa.

These findings raise some serious questions. Assuming that the degree of participation by college graduates will not differ markedly from the findings expressed here, it is a sad state of affairs that with few exceptions, less than 50 per cent of our graduates intend to take an active part in community activities. If college graduates are not going to be the leaders of the community, who will? Also, if college graduates (even though the proportion indicating active participation is small), have the largest proportion indicating active participation, some method will have to be devised to obtain adequate diversity by encouraging non-college attenders to participate.

F. Students Look at the Objectives of College Why do students attend college? Is it to prepare for a specific profession or vocation or to obtain a well-rounded education? What goals or objectives do students and former students consider as being important? Which ones do they consider unimportant? Are seniors more oriented towards the general-education goals than they are towards the vocational goals? Do the goals of males differ from those of females? Do the goals of seniors differ from those of students who withdrew during their freshman, sophomore or junior year? How similar are the goals held by those in the technical curricula to those held by individuals in the humanities? These are some of the questions to be considered in this section. in Tables 20 and 21.

Some students believe that a college education should "prepare you to think for yourself...should teach you to become independent...should prepare you for a specific vocation or profession...should teach you how to get along with others." These are some quotes taken from interview protocols of these students and former students when they were freshmen.

When all responses were categorized and quantified, the general consensus of opinion was that college should

"make you more independent, and help you learn to get along with other people. It should teach you to be tolerant of the views and opinions of others. It should educate you thoroughly in your major field of interest. It should help you to decide on what your major goal in life should be. It should teach you to do things and bring out leadership qualities. It should broaden your perspective in life and provide extensive social activities but let the student decide what he wants and how much he wants."

In an attempt to survey the reactions of the various educational groups to different goals and objectives in education, a list of 26 objectives (10 re-

An examination of the data indicates the greater importance of an academic system of values in contrast to a social set of values. In addition, the

sixteen general-education goals taken together are ranked as being more

eral type of education) was given to the subjects in the study. The instructions were as follows:

Below is a list of objectives which may apply to various courses and experiences in college. You are asked to rate them as to their importance now.

Each subject was asked to rate each of the 26 objectives as Very Important (essential that this be achieved), Average Importance (desirable that this be achieved), and Little Importance (not important that this be achieved). Scale values of +2, +1, and -1 respectively were assigned to each rating. The ratings were first made in the fall of 1958 when the subjects entered MSU as freshmen and then again four years later. The distribution of scores for each objective is given in Tables 20 and 21.

Rank-order correlations were computed separately for the males and females for the Fall, 1958-Spring, 1962 ratings and for the various group combinations in the Spring, 1962.

For both males and females, the five goals that were rated as being of greatest importance both in 1958 and in 1962 were predominantly general-education goals. Although within this top five there was no consensus among the four groups of males, each of the female groups (excepting the female seniors) in 1962 rated "to express one's thoughts effectively" as being most important. The female seniors felt when asked in the Spring, 1962, that the most important goal in college is "to master certain techniques applicable to one's vocation or field of special interest." Regardless of the fact that the top five goals were not rated equally by all the female groups (rho ranged from .852 to .912), it is interesting to note that four of them were general-education goals and one was a vocational-oriented goal.

An examination of the data indicates the greater importance of an academic system of values in contrast to a social set of values. In addition, the sixteen general-education goals taken together are ranked as being more

Table 20

Objectives of College - Spring, 1962

Objective	Total Weighted Score ⁺ for Males and Females in Group			
	I (183/197)	II (192/300)	III (405/450)	IV (1950/1452)**
*To master a classification of knowledge in a field.	96 (147)	98 (138)	213 (203)	1010 (732)
*To master certain techniques applicable to one's vocation or field of special interest.	112 (180)	112 (167)	240 (270)	1168 (900)
*To acquire specific information and techniques in preparation for further study in a particular field.	90 (140)	91 (137)	201 (192)	1013 (741)
To acquire and use the skills and habits involved in critical and constructive thinking.	99 (172)	111 (163)	247 (270)	1133 (872)
To develop a code of behavior based on democratic and ethical principles.	85 (141)	77 (148)	172 (203)	1035 (815)
To express one's thought effectively.	109 (181)	113 (183)	252 (277)	1123 (872)
To recognize the fact of world interdependence.	49 (116)	55 (96)	151 (178)	729 (653)
To learn to get along with people.	103 (180)	99 (176)	224 (251)	1173 (888)

⁺ The total weighted score is computed by assigning a value of +2 to Very Important, +1 to Important, and -1 to Little Importance and taking the sum. The MAXIMUM weighted score for Males in Group I would be $(61) \times (+3)$ or 183 (this is based on the assumption that that goal would be rated Very Important by all males in Group I).

* Vocational-oriented goal. All others general-education goal.

**Maximum weighted score for males and females respectively.

First set of figures for males. Those in parentheses for females.

Table 20 (cont'd)
Objectives of College - Spring, 1962

Objectives	Total Weighted Score for Males and Females in Group			
	I	II	III	IV
*To acquire a degree of expertness in a special field.	94 (104)	80 (95)	168 (157)	836 (591)
*To experience a realistic sampling of one's chosen vocation.	89 (139)	93 (138)	207 (229)	933 (729)
To attain a satisfactory emotional and social adjustment.	84 (175)	97 (160)	215 (248)	1032 (854)
To understand other cultures and people.	69 (142)	83 (132)	174 (220)	823 (760)
*To know the major developments in a vocational field or field of special interest.	83 (124)	88 (135)	198 (205)	872 (647)
To understand the ideas of others.	86 (143)	97 (142)	203 (233)	969 (768)
To habitually apply scientific thought to the discovery of facts.	65 (57)	61 (47)	144 (83)	696 (392)
*To bring up to date one's knowledge in a special field of interest or a vocational field.	89 (142)	94 (140)	208 (233)	967 (723)
*To become proficient in one's chosen field of work.	109 (175)	114 (148)	227 (242)	1117 (809)
To understand and enjoy literature, art and music.	24 (100)	47 (115)	116 (175)	495 (564)
To understand one's physical and social environment.	68 (141)	86 (135)	186 (212)	857 (695)

Table 20 (cont'd)
Objectives of College - Spring, 1962

Objectives	Total Weighted Score for Males and Females in Group			
	I	II	III	IV
*To develop certain manual skills.	53 (71)	55 (80)	103 (110)	603 (357)
To move smoothly from high school to adult independence.	82 (155)	90 (142)	159 (187)	837 (653)
To develop a broad general outlook and familiarity with a variety of subjects.	73 (145)	94 (156)	190 (222)	930 (747)
To develop knowledge and understanding making possible a more effective choice of one's life work.	98 (153)	105 (159)	212 (232)	1043 (817)
To acquire knowledge and attitudes basic to a satisfying family life.	81 (163)	89 (153)	188 (233)	1003 (769)
*To develop the ability to do significant independent research.	55 (50)	53 (40)	139 (87)	682 (448)
To maintain and improve one's own health.	87 (146)	84 (128)	183 (203)	978 (654)

* Vocational-oriented goal. Others are general-education goals.

Figures are first set of figures; females below in parentheses.

Table 21 (cont'd)
Objectives of College - Fall, 1958

Objectives	Total Weighted Score for Males and Females in Group			
	I	II	III	IV
*To master a classification of knowledge in a field.	90** (148)	91 (156)	210 (214)	943 (699)
*To master certain techniques applicable to one's vocation or field of special interest.	101 (170)	108 (172)	242 (254)	1109 (852)
*To acquire specific information and techniques in preparation for further study in a particular field.	87 (138)	96 (149)	209 (219)	928 (720)
To acquire and use the skills and habits involved in critical and constructive thinking.	92 (159)	107 (165)	231 (257)	1154 (866)
To develop a code of behavior based on democratic and ethical principles.	78 (148)	86 (157)	193 (230)	810 (671)
To express one's thought effectively.	93 (146)	99 (166)	231 (244)	1157 (809)
To recognize the fact of world interdependence.	56 (106)	57 (122)	133 (176)	787 (663)
To learn to get along with people.	93 (167)	105 (178)	244 (258)	1081 (833)

* Vocational-oriented goal. Others are general-education goals.

**Males are first set of figures; females below in parentheses.

Table 21 (cont'd)
Objectives of College - Fall, 1958

Objectives	Total Weighted Score for Males and Females in Group			
	I	II	III	IV
*To acquire a degree of expertness in a special field.	75 (107)	77 (106)	175 (190)	793 (579)
*To experience a realistic sampling of one's chosen vocation.	72 (129)	83 (143)	166 (210)	909 (736)
To attain a satisfactory emotional and social adjustment.	80 (150)	95 (166)	214 (244)	1008 (809)
To understand other cultures and people.	57 (120)	70 (143)	170 (210)	839 (736)
*To know the major developments in a vocational field or field of special interest.	78 (110)	82 (133)	161 (183)	884 (660)
To understand the ideas of others.	66 (129)	83 (147)	185 (222)	1010 (771)
To habitually apply scientific thought to the discovery of facts.	62 (124)	66 (138)	142 (207)	658 (713)
*To bring up to date one's knowledge in a special field of interest or a vocational field.	80 (124)	85 (138)	184 (207)	926 (713)
*To become proficient in one's chosen field of work.	90 (152)	112 (162)	233 (244)	1029 (774)
To understand and enjoy literature, art and music.	31 (81)	45 (108)	93 (171)	570 (619)
To understand one's physical and social environment.	65 (118)	73 (131)	168 (193)	866 (711)

Table 21 (cont'd)
Objectives of College - Fall, 1958

Objectives	Total Weighted Score for Males and Females in Group			
	I	II	III	IV
*To develop certain manual skills.	60 (72)	58 (84)	115 (100)	428 (287)
To move smoothly from high school to adult independence.	66 (126)	76 (127)	175 (193)	751 (621)
To develop a broad general outlook and familiarity with a variety of subjects.	71 (132)	73 (150)	190 (210)	924 (729)
To develop knowledge and understanding making possible a more effective choice of one's life work.	79 (146)	91 (148)	211 (238)	1014 (806)
To acquire knowledge and attitudes basic to a satisfying family life.	84 (141)	88 (149)	198 (231)	830 (684)
*To develop the ability to do significant independent research.	62 (70)	69 (88)	134 (135)	653 (416)
To maintain and improve one's own health.	87 (129)	93 (138)	208 (180)	777 (623)

An examination of the data indicates the greater importance of an academic system of values in contrast to a social set of values. In addition, the sixteen general-education goals taken together are ranked as being more important than the ten vocational goals by all groups with the exception of the freshman and sophomore-year male withdrawals and the female seniors. Despite the fact that the academic values were ranked higher than the social values by both males and females, the females nevertheless ranked social values as portrayed in "to learn to get along with people" second in importance. The males with the exception of the sophomore-year withdrawals, also ranked this in the top five.

In contrast to the academic set of educational values was what might be termed the utilitarian value of a college education -- "to master certain techniques applicable to one's vocation or field of special interest." In terms of the weighted scores, it had a ranking in the top five for both the four male and female groups.

The opinions of the subjects in this study appeared to focus mainly upon these three aspects (vocational, academic, and social) of the goals or objectives or role of college. One should not lose sight, however, of the other goals which were stressed to a lesser degree but which still indicate that our institutions of higher education have more than one major role to play. The importance attached to these other goals varied, depending upon the educational group surveyed. They consisted of the goals to understand the ideas of others, to attain satisfactory emotional and social adjustment, and to understand the cultures of other people. The only goal which was consistently ranked close to the bottom of the list by a majority of students, regardless of sex and amount of time spent at college was "to understand and enjoy literature, art and music." Although many of these students indicated in another section of the inventory that they felt their home community should

provide for these activities, they felt that this was not an important goal for a college to provide.

The rank-order correlations for the responses to the pre-test (1958) and the post-test (1962) college objectives inventory indicated that there was substantial agreement both between males and females and among the various educational groups. Those objectives considered to be very important in 1958 were also thought to be very important (although possibly not to the exact degree) in 1962. The magnitude of the rank-order correlations among the various groups indicates that there was more similarity than difference among the educational groups with respect to those objectives they felt were very important, important, and not important. This however, is not analogous to concluding that there was no difference at all among the various groups of males and females and their responses to the 26 objectives of college. In fact, an analysis of the responses indicated that there was a significant difference among the groups for 15 and 9 objectives for the males and females respectively. In other words, it would appear that there is more unanimity of opinion among the various female groups than there was among the four male groups.

There were five objectives for which there was no significant difference in opinion among either the male or female groups. Of these five, three were vocational goals: "To experience a realistic sampling of one's chosen vocation", "to know the major developments in a vocational field or field of special interest," and "to bring up to date one's knowledge in a special field of interest or a vocational field." The other two were general-education goals: "to express one's thoughts effectively," and "to understand one's physical and social environment."

The fact that there was more similarity than difference in opinion among the various educational groups strongly suggests, in the light of the previous

analyses, that both college seniors and former students who did not graduate from college respect the value of general-education courses. Initially, there is some antagonism on the part of students to the 45-hours of general education courses that students at Michigan State University must take in order to graduate. Previous research has demonstrated, however, that this antagonism or apathy begins to decrease as the students become seniors and wanes even more after the students have graduated. As far as these seniors and former MSU students in the present study are concerned, 69 per cent felt that all college students should be required to take a series of general education courses, while only 31 per cent felt that this requirement should not exist. Although we have no data regarding this point when these subjects were freshmen, judging from previous research it would seem likely that these subjects (as did their predecessors) had as seniors (or as withdrawals who had entered MSU four years previously) a greater appreciation for a well-rounded education than they had as entering freshmen.

G. Self-Perceived Changes

At the beginning of the chapter, we discussed the actual changes that occurred in subjects' stereotypic beliefs, dogmatism, and traditional-value orientation. The basis for defining change was to compare test scores obtained at the beginning of the freshman year and then again four years later.¹⁵

indicate the type least like themselves now, the type they would like to be if they could, and the type applicable to or characteristic of the typical MSU student. The responses to these items are contained in Table 22. From the table, one could conclude that:

¹⁵ In reality, the statistical design employed equated all groups in terms of initial test score and ascertained whether there was a significant difference in post-test scores.

Oddly enough, both the male and female seniors had the smallest proportion of any of the four attendance groups considering themselves to be vocationally-

This section of the report will focus primarily on self-perceived changes. Although there may be some (or for that matter, many) who feel that this type of analysis lacks scientific precision, the researchers feel that often more reliable information is obtained by asking the subject to describe any differences in his behavior between time A and time B.

From the analysis of interviews and other data, it is readily evident that students undergo a marked change in their beliefs, ideals, opinions, and interests while at college. It is conceivable that these changes are not directly related to a college education per se but may be due to the interaction of a variety of factors -- maturation, the times we live in, peer group mores, and so forth -- factors not directly related to the formal academic experiences. This being the case, we should not see a marked distinction between self-perceived changes of withdrawals and college seniors. However, if college experiences exert some peculiar influence, we should notice a difference not only between withdrawals and seniors but even among the three withdrawal groups (freshman, sophomore, and junior-year).

One section of the Experience Inventory contained brief descriptions of four typologies--vocational, academic, collegiate, and non-conformist. The subjects were asked to classify themselves now, and how they had perceived themselves as freshmen, into one of the four types. In addition, they were asked to indicate the type least like themselves now, the type they would like to be if they could, and the type applicable to or characteristic of the typical MSU student. The responses to these items are contained in Table 22. From the table, one could conclude that:

1. For both males and females, there was a significant difference among the four groups in regard to their description of their present typology. Oddly enough, both the male and female seniors had the smallest proportion of any of the four attendance groups considering themselves to be vocationally-

Table 22

Self-Perceived Typology Changes from Freshman to Senior Year

Statement	Type and Percentage in Each Group Responding												χ^2				
	W				X				Y					Z			
	1	2	3	4	1	2	3	4	1	2	3	4		1	2	3	4
Which of the above (W, X, Y, Z) comes <u>closest</u> to describing the kind of person you consider yourself to be now?	44*	38	44	35	11	23	13	18	33	31	37	35	12	8	6	12	17.376**
	(31)	(25)	(22)	(19)	(8)	(8)	(10)	(21)	(49)	(60)	(59)	(50)	(12)	(7)	(9)	(10)	(32.222)
Which of the above is <u>least</u> descriptive of the kind of person you consider yourself to be <u>now</u> ?	14	10	17	17	32	34	33	26	12	5	3	5	42	51	47	52	14.955
	(14)	(30)	(26)	(22)	(36)	(30)	(30)	(24)	(1)	(1)	(2)	(2)	(49)	(39)	(42)	(52)	(20.106)
Which of the above comes <u>closest</u> to describing the kind of person you were when you first came to MSU?	51	43	30	46	11	10	11	13	7	13	18	19	31	34	41	22	49.597
	(38)	(27)	(28)	(31)	(6)	(10)	(10)	(18)	(19)	(28)	(22)	(29)	(37)	(35)	(40)	(22)	(38.063)

Type:

- W - For the most part, this person's primary reason for being in college is to obtain vocational or occupational training.
- X - For the most part, this person would consider himself to be someone who is primarily motivated by intellectual curiosity.
- Y - For the most part, this person feels that the social life in college is not the most important but is certainly essential for his general development.
- Z - For the most part, this person attempts to "make grades" but will rarely go out of his way to do extra or non-assigned readings.

* Percent for males listed first, percent for women below in parentheses.

** All χ^2 significant beyond .05 level.

Table 22 (cont'd)
Self-Perceived Typology Changes from Freshman to Senior Year

Statement	Type and Percentage in Each Group Responding													χ^2			
	W				X				Y				Z				
	1	2	3	4	1	2	3	4	1	2	3	4	1		2	3	4
Which of the above comes <u>closest</u> to describing the kind of person you <u>would</u> like to be if you had the choice?	24	16	11	13	26	28	27	30	40	54	56	52	10	2	6	5	15.677
	(12)	(6)	(9)	(6)	(25)	(21)	(21)	(31)	(60)	(71)	(69)	(60)	(3)	(2)	(1)	(3)	(17.402)
Which of the above types comes <u>closest</u> to describing the <u>typical</u> MSU student?	23	11	12	21	2	7	2	4	42	39	35	22	33	43	51	43	32.476
	(7)	(11)	(13)	(13)	(2)	(1)	(0)	(1)	(53)	(38)	(35)	(23)	(38)	(50)	(52)	(63)	(48.799)

oriented. On reflection, however, this is not unexpected. The wording of the question asks for the primary reason for being in college, and one would expect college seniors to be concerned with a broad general education as well as vocational preparation whereas withdrawals, who no doubt have white or blue collar jobs, would feel that they are unprepared for a vocation that is of a professional nature.

2. For both males and females, there was a significant difference among the four groups and the characteristic that was least descriptive of them now. However, the greatest proportion of all subjects felt that they were not "collegiate and rah-rah" for the social amenities.

3. For both males and females, there was a significant difference among the four groups in regard to the typology they felt described them when they entered MSU as freshmen in 1958. For the males, with the exception of the junior-year withdrawals, the greatest proportion of subjects felt that they were vocationally-oriented when they first came to college. The majority of the junior-year withdrawals felt that they were "collegiate" when they came to MSU in 1958. As might be expected for those females who withdrew from college, their major objective when they entered as freshmen was to have "one hell of a good time" as long as it lasted. Less than 50 per cent of them were either vocationally or primarily academically oriented.

4. As might be expected, there were some rather drastic changes for all groups between 1958 and 1962. In 1962, all subjects, with the exception of junior-year male withdrawals, felt that they were (or, in the case of the withdrawals would be) less concerned with attending college for vocational preparation than in 1958. They had become more strongly concerned with the academic and non-academic aspects of college life -- much more so than with the vocational; they increasingly felt that a happy balance should be realized between studying and socializing. It should also be noted that the percentage

of students who might be described as collegiate and who were attempting to get by with a minimum of effort decreased during the four-year period.

In terms of numbers changing, the greatest change for the various groups of males and females was an increase in the proportion indicating a balance between academic and social life and a decrease in the "rah-rah" type.

5. For both males and females there was a significant difference among the four groups in regard to the type of student they would like to be if they had a chance. Once again, it is readily evident that regardless of the amount of time spent at college, most individuals did not want to engage mainly in intellectual activity; they did not want to attend college primarily for vocational training; nor did they want to go to college simply to have a good time. They did, however, want to study and participate in a variety of activities while at college. If one compares the responses of items 1 and 4, it is readily evident that for all groups there was a difference between self-perceived and ideal traits.

6. For both males and females, there was a significant difference among the four groups in regard to their image of the typical MSU student. With the exception of the freshman-year withdrawals (the majority of whom typified the average MSU student as being non-conformist),¹⁶ the majority of the other groups felt that the typical MSU student was "collegiate" -- that is, would try to get by with a minimum of effort. Interestingly enough, there was very little difference between the sophomore and junior-year withdrawals in their image of the typical MSU student but a marked difference between them and either the freshman-year withdrawals or the seniors. It is readily evident that for both males and females, less than 25 per cent of any group characterized the typical MSU student as being primarily either vocationally or academically

¹⁶ Type Y (see appendix) is classified as non-conformist.

oriented. The proportion of subjects who felt that the typical MSU student was collegiate increased progressively from the freshman-year withdrawals to the seniors. It is interesting to note a number of discrepancies between the subjects' self-description and their expressed description of the typical MSU student.

In summary, the findings support those reported earlier regarding the objectives of college. Although students may originally have thought of a college education in terms of a profession, their conception of a college education changed markedly by the time they graduated or in the case of non-graduates, when they looked back after 1, 2, or 3 years. There is no doubt these subjects felt that vocational training should play an important part but that it should not subordinate the social side of college life. In other words, seniors as well as former students who withdrew from MSU felt that general development, not just mental, should be stressed in college.

Table 23 contains the responses to a variety of items describing change (or lack of change) in such areas as tolerance, religion, the value of a college education. From the table one might conclude that:

1. A majority of the males and females in all groups indicated that they had undergone some change (in one direction or another) in their attitudes, values, opinions, and beliefs between 1958 and 1962.
2. A small percentage of the subjects changed in what might be termed a negative, or from the point of view of the values of the society, an undesirable direction. For example, some of the subjects indicated that they became less tolerant of people differing in race, creed, color, or religion; that they developed less respect for the law, rules, and regulations; and that they were less attached to a religious sect or denomination they could believe in and defend.

Table 23

Self-Perceived Changes in Attitudes and Values from 1958 to 1962

In what ways are you different now from what you were as a freshman?	Percentage in each group responding												χ^2
	More				Less				Same				
	1	2	3	4	1	2	3	4	1	2	3	4	
Tolerance of people differing in race, creed, color, or religion.	47 (58)	50 (63)	59 (63)	66 (73)	10 (4)	9 (1)	11 (7)	7 (4)	43 (38)	41 (36)	30 (30)	27 (23)	16.059* (20.385*)
Respect for the views and opinion of other people.	75 (77)	67 (72)	78 (77)	80 (82)	4 (4)	6 (3)	1 (2)	3 (2)	21 (19)	27 (25)	21 (21)	17 (16)	9.670 (8.551)
Respect for views and opinions opposite to mine.	67 (79)	56 (74)	72 (74)	76 (80)	5 (6)	2 (3)	5 (3)	4 (4)	28 (15)	42 (23)	23 (23)	20 (16)	17.954 (8.390)
Tolerance of unconventional dress, behavior, and manners.	31 (44)	44 (52)	39 (49)	48 (63)	26 (10)	20 (11)	25 (19)	20 (13)	43 (46)	36 (37)	36 (32)	31 (24)	9.006 (27.604*)
Insight into the behavior of other people.	68 (79)	80 (81)	81 (85)	85 (93)	8 (0)	5 (1)	4 (2)	2 (1)	31 (21)	15 (18)	15 (13)	13 (6)	27.310* (31.226*)
Ability to get along with other people.	70 (74)	64 (71)	68 (69)	73 (73)	2 (1)	3 (1)	4 (1)	2 (2)	28 (26)	33 (28)	28 (30)	25 (25)	4.612 (3.578)
Interest in political matters.	59 (42)	61 (44)	57 (55)	60 (60)	18 (10)	8 (6)	7 (8)	8 (8)	23 (48)	31 (50)	36 (37)	32 (32)	10.765 (19.499*)
Interest in social issues.	48 (54)	53 (62)	65 (69)	68 (72)	18 (9)	11 (4)	7 (4)	5 (5)	34 (37)	36 (34)	28 (27)	26 (23)	22.977* (16.699*)
Interest in intellectual and cultural matters.	41 (46)	53 (68)	65 (69)	73 (84)	13 (4)	9 (1)	7 (3)	4 (2)	46 (50)	38 (31)	28 (28)	23 (14)	36.129* (78.393*)

Males first set of figures; females below in parentheses.

* Significant at $\alpha < .05$ level.

Table 23 (cont'd)

Self-Perceived Changes in Attitudes and Values from 1958 to 1962

In what ways are you different now from what you were as a freshman?	Percentage in each group responding													X ²
	More				Less				Same					
	1	2	3	4	1	2	3	4	1	2	3	4		
Interest in scientific developments.	62 (41)	64 (49)	69 (45)	70 (60)	10 (16)	2 (6)	7 (7)	6 (5)	28 (43)	34 (45)	24 (48)	23 (35)	7.624 (30.579*)	
Interest in world affairs.	74 (64)	75 (63)	78 (67)	77 (77)	8 (6)	2 (2)	5 (3)	2 (3)	18 (30)	23 (35)	17 (30)	21 (20)	14.480* (17.587*)	
Ability to adjust to conditions not to my liking.	56 (73)	70 (74)	66 (68)	72 (73)	6 (5)	5 (4)	9 (7)	5 (5)	38 (22)	25 (22)	24 (25)	23 (22)	10.433 (2.383)	
Ability to accept disappointment.	56 (68)	75 (69)	60 (70)	64 (67)	13 (8)	3 (2)	11 (3)	5 (4)	31 (24)	22 (29)	29 (27)	31 (29)	15.703* (6.179)	
Ability to change my views in the presence of facts.	66 (72)	73 (60)	74 (67)	80 (78)	10 (3)	3 (4)	2 (4)	2 (2)	24 (25)	23 (36)	25 (29)	18 (20)	23.125* (17.889*)	
Confidence in my ability to deal with new problems.	70 (77)	83 (74)	75 (79)	82 (83)	11 (7)	0 (4)	4 (7)	4 (4)	19 (16)	18 (22)	21 (14)	13 (13)	16.267* (9.249)	
Responsibility for my own behavior.	77 (70)	75 (72)	76 (69)	80 (80)	5 (2)	0 (1)	1 (2)	1 (1)	18 (28)	25 (27)	24 (29)	19 (19)	12.615* (13.039*)	
Dependence on class attendance for learning.	30 (29)	38 (36)	35 (30)	28 (27)	28 (19)	22 (25)	34 (35)	43 (40)	42 (52)	41 (39)	31 (35)	29 (33)	18.438* (26.821*)	
Feeling that the quality of one's education depends on the institution rather than the individual.	23 (6)	8 (9)	12 (9)	13 (10)	49 (61)	75 (56)	64 (56)	63 (68)	28 (33)	17 (35)	23 (35)	24 (22)	10.596 (16.514*)	
Dependence on my age group for behavior patterns.	13 (9)	5 (5)	11 (9)	11 (10)	69 (67)	61 (67)	57 (68)	57 (64)	18 (24)	34 (28)	32 (23)	32 (26)	7.994 (3.965)	

Table 23 (cont'd)

Self-Perceived Changes in Attitudes and Values from 1958 to 1962

In what ways are you different now from what you were as a freshmen?	Percentage in each group responding												X ²
	More				Less				Same				
	1	2	3	4	1	2	3	4	1	2	3	4	
Acceptance of the Bible as a guide to modern living.	26 (25)	12 (19)	14 (13)	11 (13)	16 (11)	19 (21)	34 (19)	34 (30)	57 (64)	69 (60)	52 (68)	55 (57)	23.406* (28.217*)
Attachment to a religious sect or denomination that I can believe in and defend.	25 (27)	17 (24)	16 (17)	12 (17)	16 (9)	25 (18)	36 (24)	37 (34)	59 (64)	58 (58)	48 (59)	51 (49)	16.430* (36.337*)
Respect for law.	51 (30)	36 (26)	34 (25)	34 (26)	8 (0)	2 (2)	9 (5)	11 (7)	41 (70)	62 (72)	57 (70)	55 (67)	12.889* (11.849)
Respect for rules and regulations.	48 (43)	47 (32)	32 (26)	28 (20)	8 (0)	2 (7)	16 (11)	23 (26)	44 (57)	51 (61)	52 (63)	49 (54)	32.642* (67.472*)
Respect for persons in positions of authority.	43 (42)	52 (36)	38 (33)	35 (22)	21 (2)	11 (8)	12 (12)	16 (17)	38 (56)	37 (56)	50 (55)	49 (61)	10.604 (37.186*)
Feeling that money is of primary importance.	54 (42)	56 (56)	62 (49)	61 (58)	18 (15)	5 (8)	10 (9)	9 (7)	28 (43)	39 (36)	27 (42)	30 (35)	9.149 (13.537*)
Desire to accept a job for the satisfaction it has to offer rather than the salary it pays.	54 (60)	56 (62)	62 (63)	61 (63)	18 (14)	5 (5)	10 (8)	9 (11)	28 (26)	39 (33)	27 (29)	30 (26)	9.149 (9.047)
Drive to get ahead as quickly as possible.	44 (23)	53 (22)	53 (25)	50 (26)	21 (20)	11 (20)	17 (22)	14 (24)	34 (57)	36 (58)	30 (53)	36 (50)	4.812 (3.570)
Feeling that a major aim of college is to prepare one for a vocation or profession.	51 (32)	34 (31)	42 (30)	32 (21)	16 (21)	25 (30)	33 (31)	37 (44)	33 (47)	41 (39)	25 (39)	31 (35)	20.248* (27.027*)

Table 23 (cont'd)

Self-Perceived Changes in Attitudes and Values from 1958 to 1962

In what ways are you different now from what you were as a freshman?	Percentage in each group responding												χ^2
	More				Less				Same				
	1	2	3	4	1	2	3	4	1	2	3	4	
Feeling that a college should also stress a liberal-arts type of education.	28 (41)	47 (59)	60 (63)	67 (68)	20 (7)	14 (9)	9 (7)	9 (7)	52 (52)	39 (32)	31 (30)	24 (25)	43.437* (30.357*)
Feeling that a college education is necessary to succeed in the world.	46 (39)	52 (51)	62 (49)	60 (59)	33 (25)	20 (21)	15 (20)	13 (14)	21 (36)	28 (28)	23 (31)	27 (27)	20.091* (17.292*)
Importance of grades as measures of achievement.	28 (21)	26 (15)	29 (17)	18 (11)	38 (41)	39 (54)	50 (54)	61 (66)	34 (38)	35 (31)	21 (29)	21 (23)	28.606* (27.743*)
Confusion as to what I want out of life.	29 (11)	19 (12)	16 (13)	21 (21)	48 (65)	56 (67)	57 (72)	56 (64)	23 (24)	25 (21)	27 (15)	23 (15)	4.247 (16.837*)
Optimistic outlook for my future.	54 (64)	58 (62)	64 (61)	64 (67)	10 (10)	11 (10)	12 (11)	10 (10)	36 (26)	31 (28)	24 (28)	26 (23)	4.740 (3.929)
Pessimistic outlook for my future.	11 (8)	8 (5)	6 (6)	8 (8)	57 (67)	72 (68)	64 (71)	68 (72)	32 (25)	20 (27)	30 (23)	24 (20)	6.347 (3.957)
Optimistic outlook for future of civilization.	43 (48)	42 (37)	43 (35)	45 (39)	21 (11)	19 (18)	13 (23)	21 (29)	36 (41)	39 (45)	44 (42)	34 (32)	6.070 (23.183*)
Pessimistic outlook for the future of civilization.	13 (9)	19 (12)	14 (19)	21 (27)	41 (51)	52 (44)	41 (42)	47 (42)	46 (41)	29 (44)	45 (39)	32 (31)	13.150* (26.153*)

Table 23 (cont'd)
Self-Perceived Changes in Attitudes and Values from 1958 to 1962

In what ways are you different now from what you were as a freshman?	Percentage in each group responding												X ²
	More				Less				Same				
	1	2	3	4	1	2	3	4	1	2	3	4	
Feeling of the necessity for religious faith for living in modern times.	52 (59)	36 (40)	35 (40)	32 (39)	12 (5)	19 (14)	30 (10)	30 (24)	36 (36)	45 (46)	35 (50)	38 (37)	16.582* (39.053*)
Commitment to a set of religious beliefs.	26 (36)	23 (25)	21 (24)	20 (24)	23 (11)	20 (23)	31 (19)	35 (33)	51 (53)	56 (52)	48 (57)	45 (43)	9.011 (31.865*)
Awareness of my goals in life.	58 (78)	72 (73)	70 (78)	75 (82)	18 (3)	8 (9)	13 (9)	9 (9)	24 (29)	21 (18)	17 (13)	16 (19)	13.111* (14.286*)

3. A sizable proportion of both males and females (although females appeared to be more predisposed to maintaining the status quo) in all groups signified that they felt they had undergone no marked change in some of their views, beliefs, and attitudes between 1958 and 1962. Over 50 per cent of the males and females in each of the groups (except male, junior-year withdrawals) stated that they did not change in respect to the acceptance of the Bible as a guide to modern living and that they had no more or no less attachment to a religious denomination or sect that they could believe in and defend. In addition, over 50 per cent of all the males felt that they did not change in their commitment to a set of religious beliefs. Over 50 per cent of the females in the various groups felt that they shared the same views in 1962 as they did in 1958, in regard to respect for the law, rules, and regulations.

Although from one point of view one might be dismayed at the lack of change, it could also be looked upon as desirable. For lack of change for some people can be considered as being as desirable as presence of change for others.

4. For both males and females, there was no significant relationship between length of college attendance and either degree or direction of self-perceived change in

- i. respect for the views and opinions of other people.
 - ii. ability to get along with other people.
 - iii. ability to adjust to conditions not to my liking.
 - iv. dependence on my age group for behavior patterns.
 - v. drive to get ahead as quickly as possible.
 - vi. optimistic outlook for my future.
 - vii. pessimistic outlook for my future.
- v. ability to change my views in the presence of facts. Although all groups became less dogmatic and more receptive to new ideas over the

5. For both males and females, there was a significant difference among the four educational groups in regard to self-perceived changes in the development of ~~attitudes~~. For the females, although the seniors changed most in this

trait, i. tolerance of people differing in race, creed, color or religion. The proportions of both sexes who indicated they became more tolerant increased progressively with increased college attendance. This finding strongly suggests (and reinforces a hypothesis of the researchers) that certain experiences typical of college students viz. the discussions and "bull-sessions in the living unit" provide an opportunity for students of different faiths and beliefs to congregate and share their views. This experience appears to be more potent than studying about the Negro or Jew or Catholic in the classroom (Lehmann and Dressel, 1962).

except ii. insight into the behavior of other people. Once again, increased college attendance was accompanied by an increase in the proportion of subjects who felt that they developed more insight into the behavior of people. previously oriented. However, this is not the case. As

was iii. interest in social issues and intellectual and cultural matters. The freshman withdrawals (both male and female) had the smallest proportion indicating that they possessed more of these qualities in 1962 than in 1958, while the male and female seniors had the largest proportion. some students becoming more questioning of their

religion iv. interest in world affairs. Although for both males and females the seniors had the largest proportion indicating more interest while the freshman-year withdrawals had the smallest proportion indicating more interest, the proportion who felt they developed more of this quality did not increase progressively with amount of college attendance.

of religion v. ability to change my views in the presence of facts. Although all groups became less dogmatic and more receptive to new ideas over the

four-year period, it would appear, that for the males, critical, rational, and objective reasoning became more manifest with increased college attendance. For the females, although the seniors changed most in this trait, the amount of change did not appear to be related to amount of time spent at college. Again it should be noted a majority of seniors

vi. more responsibility for their own behavior. Although all groups changed markedly, the males changed more than the females and the seniors changed more than any of the withdrawal groups.

vii. less acceptance of the Bible as a guide to modern living and less attachment to a religious sect or denomination that they could believe in and defend. The proportion indicating these changes increased progressively from the freshman year withdrawals to the seniors except for female, junior-year withdrawals. On the surface, it would appear that these findings support some of the claims made by critics of higher education -- viz., college tends to make students atheists or at least less religiously oriented. However, this is not the case. As was previously noted, the majority of subjects in all groups remained the same in regard to these qualities. At most, these data only support the contention that college tends to make students more critical and objective. This development of a rational, objective approach might and does result in some students becoming more questioning of their religion. But critical thinking need not result in religious beliefs becoming subordinate to relativistic religious and moral behavior. If this were the case, we should have seen these changes in regard to the view of the Bible and attachment to a denomination accompanied in direct proportion by an increase in numbers who had less feeling for the need of religion. This, however, was not the case.

viii. more respect for rules and regulations. For both males and females, the longer the subject attended college the less respect he had for rules and regulations. It would appear that the seniors, at least, interpreted rules and regulations in terms of university rules rather than civil laws. Again it should be noted a majority of seniors felt the same respect in 1962 as they did in 1958.

ix. a realization that college should aim not only at preparing one for a profession or vocation but that college should also stress a liberal arts type of education. Seniors, as compared to withdrawals, felt more strongly towards the inclusion of a liberal arts type of education. Nevertheless, a substantial number of withdrawals (over 40 per cent) attached more importance to a liberal arts type of education in 1962 than they did in 1958 when they entered MSU as freshmen.

x. a pessimistic outlook for the future of civilization. For the females, there was a progressive increase in the proportion who felt they became more pessimistic with increased college attendance. For the males, although the proportion of seniors who became more pessimistic was largest in contrast to the small proportion of freshman-year withdrawals who changed in this direction, the proportion changing did not increase progressively with amount of college education. Although a substantial number of both males and females in each of the groups became more optimistic, (considerably more than those who became more pessimistic) it is still difficult to explain why there was a significant difference in pessimism among the four college attendance groups. Is it conceivable that a college education for some people results in one becoming more realistic? Why should there be a differential change in views regarding the future of civilization and in regard to one's personal future?

6. For males only, there was a significant relationship between amount of college education and development of greater respect for views and opinions opposite to mine. All groups possessed more of this quality in 1962 than in 1958. In fact all of the females together showed a greater increase in this trait than all of the males taken together. But amount of education was a significant factor only for the males.

7. For the females only, there was a significant relationship between amount of college education and the development of

i. tolerance of unconventional dress, behavior and manners.

Although the females in all four groups became more tolerant in this attitude, the seniors changed most while the freshman-year withdrawals changed least.

ii. interest in political matters. The proportion of females who felt they developed more interest in political matters increased progressively with length of college attendance.

iii. interest in scientific developments. The seniors had the largest number indicating they became more interested in scientific developments while the freshman-year withdrawals had the smallest number who changed in this direction.

iv. an awareness that the quality of one's education depends upon the individual rather than the institution. A significantly larger number of female seniors in contrast to the withdrawals had this awareness. In other words, if one wishes, "she can learn despite the teacher."

v. respect for persons in positions of authority. The longer a female was at college, the less likely she was to develop more respect for persons in positions of authority. It is conceivable that many of the withdrawals were working or had worked and hence developed this

feeling of respect. The seniors, however, were still at college and had not experienced this situation. It is also conceivable that the seniors were interpreting the exercise of authority by housemothers, resident advisers, and similar persons.

vi. a feeling that money is of primary importance. The data suggest that a college education results in females attaching more importance to money. The groups that had the largest and smallest proportions indicating that they attached more importance to money in 1962 than in 1958 were the seniors and the freshman-year withdrawals respectively.

In summary, it is evident that there were marked changes (albeit self-perceived) in certain behavior traits between 1958 and 1962. Although it is difficult to relate these changes specifically to a college education, it would appear that the changes are due to some factor or factors other than maturation. If it could be shown that maturation is a potent factor then it would appear that college acts mainly as a catalyst. However, if these changes are the result of forces other than maturation, further study is needed to attempt to identify these factors.

H. Some Prestige Factors

One section of the Experience Inventory listed nine factors which might lead to high prestige. Some of these factors were academic in nature (demonstrating scholarly capacity), some were extra-curricular (being active in varsity athletics) and some were neither academic, social, nor athletic (having a pleasing personality). We were interested in knowing which factors these subjects felt led to high prestige with the faculty and with students and which ones they felt should be important to the faculty and to students. We were also interested in learning whether the factors thought to be held important by the faculty were also deemed important by the students. The responses to the various items are presented in Tables 24 and 25.

It is readily evident from Table 24 that:

1. For both males and females, the three factors rated most frequently (and accounting for over 80% of the responses) as being important insofar as a prestige ranking by the faculty is concerned were "being original and creative; demonstrating scholarly capacity; and dedicating yourself to your studies." In other words, these subjects, regardless of sex and amount of college education, deemed the academic goals and virtues as being most important to the faculty. At the same time these students and former students felt that these attributes should be important to the faculty.

2. For some of the factors, the differences in proportion between males and females are either negligible or zero. There are some factors, however, that show a marked sex difference. This sex difference is also more marked in some groups than in others.

From Table 25 one might conclude that:

3. Both males and females, regardless of the amount of college education, attached proportionately great emphasis on "a pleasing personality" as a factor important in creating peer prestige. Other factors felt to be of importance were "being active in campus activities, demonstrating scholarly capacity, and dedicating yourself to your studies." It is readily evident that these subjects felt that a combination of academic and social talents make a person a BMOC insofar as students are concerned but that the faculty are, and should be, concerned with academic values.

4. It would appear that the longer one attended college, the greater the amount of importance attached to a pleasing personality. This was true for both males and females.

5. Both seniors and former students (regardless of their sex) felt that the non-academic characteristics were more important to students than were academic talents.

Table 25
Factors Leading to High Prestige With Students

Factor	Percentage in each group responding this factor							
	IS most important to students				SHOULD BE most important to students			
	I	II	III	IV	I	II	III	IV
Being original and creative.	5 (2)	3 (5)	7 (4)	7 (5)	18 (11)	23 (20)	25 (17)	27 (24)
Having a pleasing personality.	30 (48)	46 (53)	45 (61)	50 (58)	16 (40)	39 (51)	36 (49)	37 (48)
Demonstrating scholarly capacity.	10 (6)	7 (8)	11 (7)	12 (10)	24 (19)	13 (12)	14 (16)	19 (16)
Being active in campus activities.	18 (16)	15 (12)	20 (14)	14 (12)	7 (2)	2 (2)	2 (2)	1 (2)
Dedicating yourself to your studies.	16 (6)	11 (2)	5 (2)	5 (2)	28 (25)	21 (12)	22 (12)	14 (7)
Not being too critical.	4 (4)	3 (0)	2 (1)	2 (2)	5 (1)	2 (2)	0 (2)	1 (1)
Coming from the right social background.	2 (3)	5 (2)	2 (4)	4 (7)	0 (0)	0 (0)	0 (0)	1 (1)
Being active in varsity athletics.	2 (1)	2 (2)	4 (1)	1 (1)	0 (0)	0 (0)	0 (0)	1 (0)
Being a member of a fraternity or sorority.	11 (10)	8 (13)	2 (6)	5 (4)	0 (0)	0 (0)	0 (0)	1 (0)
Males first set of figures.	χ^2 males = 47.152 ($p < .01$)				χ^2 males = 49.890 ($p < .01$)			
Females below in parentheses.	χ^2 females = 43.971 ($p < .01$)				χ^2 females = 39.100 ($p < .05$)			

Although there was much similarity between the various groups in regard to those factors deemed most important, it is readily evident that there still existed a great deal of difference among the various educational groups. With but one exception (the rating of factors that yield prestige with the faculty), there was a significant relationship between amount of college education and the ratings assigned to each of the nine factors. Although the academic factors accounted for anywhere between 81-93 per cent of the responses for the males, and between 95-98 per cent of the female responses, there still was some difference among the various education groups.

6. Both males and females felt that a pleasing personality was the most important factor in gaining prestige with fellow students. However, it is readily evident that there was a marked difference in opinion within all the groups insofar as their feelings were concerned regarding what IS and what SHOULD BE important. Without a doubt, the majority felt that academic values should be most important.

7. With few exceptions (and even these contributed less than 5% to the total responses) the subjects in this study felt that such factors as "coming from the right social background, being active in varsity athletics, and being a member of a fraternity or sorority" were of little importance to the faculty and should be of little or no importance to both faculty and students.

In summary, it is evident that both students and former students felt that academic values should be of utmost importance to both faculty and students. This opinion was shared by all, regardless of sex and amount of college education.

I. Students and Former Students Look at Religion

It has already been shown that the longer one attends college, the more likely is he (or she) to become relativistic in his moral, ethical, and

religious outlook. It has also been pointed out that this relativism should not be considered as less attachment to religion per se, but should be considered as a more penetrating inquiry into the whole concept of religion.

In one section of the Experience Inventory, the subjects were presented with six major religious concepts -- The Bible, Prayer, Man, God, Sin, and Eternity. The subjects were given seven definitions for each concept (the definitions ranging from extreme conservatism or absolutism to extreme liberalism or relativism) and were asked to select the definition that most closely agreed with their attitude regarding that concept. The responses are presented in Table 26. From this table, the following conclusions appear to be warranted:

Table 26
Rank-Order Correlations for Selected Religious Concepts for Various Male and Female Group Comparisons

Groups Compared*	Religious Concept					
	Bible	Prayer	Man	God	Sin	Eternity
1 vs. 2	.87 (.96)	.68 (.96)	.71 (.87)	.88 (.76)	.81 (.97)	.61 (.81)
1 vs. 3	.68 (.96)	.77 (.93)	.85 (.71)	.93 (.99)	.92 (.88)	.85 (.81)
1 vs. 4	.71 (.92)	.87 (.93)	.80 (.67)	.96 (.90)	.84 (.74)	.92 (.85)
2 vs. 3	.87 (.99)	.80 (.93)	.88 (.88)	.85 (.78)	.94 (.96)	.71 (1.00)
2 vs. 4	.87 (.92)	.84 (.93)	.93 (.88)	.88 (.85)	.94 (.71)	.86 (.89)
3 vs. 4	.96 (.95)	.96 (1.00)	.85 (.97)	.94 (.93)	.92 (.64)	.80 (.89)

- * Group 1 = Freshman-Year Withdrawals
 2 = Sophomore-Year Withdrawals
 3 = Junior-Year Withdrawals
 4 = Seniors

Males first set of figures. Those below in parentheses for females.

1. For both males and females only 14 (7 for each sex) of the 72 rank-order correlations were below .80. This would strongly suggest that regardless of sex and amount of college education, there is more similarity than difference with respect to attitudes regarding certain selected religious concepts.
2. In the majority of instances, the rank-order correlations for the females were slightly higher ($>.05$) than for their male counterparts. The only instances where this trend was reversed was as follows:
 - i. the definition of MAN for the freshman and junior-year withdrawals.
 - ii. the definition of MAN for the freshman-year withdrawals and seniors.
 - iii. the definition of GOD for all the combinations with the exception of the freshman-junior-year withdrawals.
 - iv. the definition of SIN for the freshman-junior year withdrawals; and for the freshman, sophomore, and junior-year withdrawals versus the seniors.
 - v. the definition of ETERNITY for the freshman and junior-year withdrawals, and for the freshman-year withdrawals and seniors.
3. There is no clear-cut pattern that suggests or even implies that college tends to make one more liberal or more absolute insofar as religious beliefs are concerned. In some instances, the pattern of agreement was quite high while in others it was much lower. In some instances all subjects, regardless of sex and amount of college education were liberal and relativistic, while at other times these same subjects were rather absolute in their beliefs. In other words, it is indeed difficult to ascribe certain religious concepts, or changes in these concepts, to a college education, per se. Had we found that in all instances those who withdrew from college during their

freshman year were absolutists (in a religious sense) while the seniors were relativists, we might have had some foundation to say that college does this or that to its students. However, this was not the pattern here.

J. The Ideal Community

For some people, the choice of a community depends upon such factors as cultural activities, type of schools, proximity to church and shopping. Do college graduates have a different image of what an ideal community should consist of than do non-college graduates? What relationship is there between length of college attendance and opinions on what constitutes desirable community facilities? Do females have different views than males? These are some of the questions to be considered at this time.

The subjects were asked to respond to a situation indicating lack of ready access to ten community facilities in terms of a four-point scale -- extremely dissatisfied, quite dissatisfied, somewhat dissatisfied, and wouldn't bother me at all. Because of the limited number of responses at the extremes, the data were collapsed into two categories -- quite dissatisfied and somewhat dissatisfied. The responses are presented in Table 27.

1. For both males and females, there was a statistically significant difference among the feelings of the four groups in regard to a community that did not have an excellent local bookstore and one that lacked a theatre which showed foreign and art films. In each instance, there was a progressive increase (in the proportion of subjects who felt that they would be quite dissatisfied with this type of community) with increased college attendance. This would suggest that the longer one attended college, the greater would be his (or her) disposition toward a community that offered these facilities. In every instance, the proportion of females who felt that they would be quite dissatisfied was markedly higher than for their male counterparts.

Table 27
Response to Lack of Community Facilities

Facility	Percentage in each group responding							
	Quite dissatisfied				Somewhat dissatisfied			
	I	II	III	IV	I	II	III	IV
Opportunities to hear live performances of serious music.	11 (22)	13 (28)	21 (38)	22 (41)	89 (78)	87 (72)	79 (62)	78 (59)
Opportunities to see serious drama.	11 (16)	11 (29)	20 (37)	19 (43)	89 (84)	89 (71)	80 (67)	81 (57)
Opportunities to see professional or college athletic events.	57 (41)	42 (38)	54 (33)	46 (27)	43 (59)	58 (62)	46 (67)	54 (73)
A good local art museum.	17 (40)	18 (44)	19 (41)	19 (46)	83 (60)	82 (56)	81 (59)	81 (54)
An excellent local bookstore.	44 (64)	52 (70)	54 (75)	64 (82)	56 (36)	48 (30)	46 (25)	36 (18)
Opportunities to engage in serious discussion of the basic problems and issues which confront our country.	52 (49)	47 (46)	55 (53)	60 (64)	48 (51)	53 (54)	45 (47)	40 (36)
A theatre which shows foreign and art films.	13 (23)	23 (35)	29 (41)	32 (46)	87 (77)	77 (65)	71 (59)	68 (54)
Opportunities for an active social life.	61 (79)	59 (80)	74 (79)	70 (73)	39 (21)	41 (20)	26 (21)	30 (27)
A good local library.	76 (81)	75 (91)	81 (88)	79 (93)	24 (19)	25 (9)	19 (12)	21 (7)
Excellent public schools.	87 (97)	88 (96)	91 (96)	91 (96)	13 (3)	12 (4)	9 (4)	9 (4)
First set of figures for males. Those below in parentheses for females.								

* Significant at .05 level. ** Significant at .01 level.

2. As might be expected, the males, regardless of amount of college education, did not have a predilection either toward opportunities for hearing serious music or toward seeing serious drama. In fact, less than 25 per cent of the males felt that they would be quite dissatisfied if their community did not offer these opportunities. No doubt this explains, in part at least, the reason for there being no significant relationship between amount of college education and responses to these items. The converse, however, was true for the females. The longer a female attended college, the greater the likelihood that she would feel quite disappointed if the community she lived in lacked certain cultural facilities such as drama and serious music. There was a progressive increase corresponding to increased college attendance in the proportion of females who felt they would be quite dissatisfied with such a community. *did not provide such opportunities). In other words, the longer*

3. For the females (but not for the males) the proportion of subjects who felt they would be quite dissatisfied with their community if there were no opportunity to see professional or college athletic events decreased with the level of college education. There was no significant difference among the four male groups and their responses to this item, and it is readily evident that over 40 per cent of the males in each group considered this opportunity to be quite important. *proportion indicating considerable dissat-*

4. For both males and females, there was no significant difference in opinions among the four groups in regard to the availability of a good art museum, opportunities for an active social life, and excellent public schools. Once again the females, regardless of amount of education, desired (in contrast to their male counterparts) a good local art museum. Of all the items, the one related to having excellent public schools had the highest proportion voicing a strong opinion. It would appear that regardless of sex and amount of college education, schooling for children is uppermost in people's minds.

Over 85 per cent of the males and over 95 per cent of the females felt that they would be quite dissatisfied with their community if it did not have excellent public schools. This would suggest that although there might be differences in opinion between college graduates and those who did not attend or graduate from college on some issues, there is a consensus of opinion among all where childrens' education is concerned.

5. For the females only, there was a significant relationship between amount of college education and opinion regarding a community that failed to provide opportunities to engage in serious discussion of the basic problems and issues which confront our country. As might be expected, there was almost a progressive increase with increased college attendance in the proportion of females who felt that they would be quite dissatisfied (if their community did not provide such opportunities). In other words, the female seniors had the largest proportion who felt they would be quite dissatisfied while the freshman-year withdrawals had the smallest proportion voicing such dissatisfaction.

6. For the females only, there was a significant difference among the four groups in their opinions regarding the desirability of a community that did not have a good public library. Despite the fact that with the exception of the junior-year withdrawals the proportion indicating considerable dissatisfaction increased with amount of college education, over 80 per cent of all the groups felt that they would be quite dissatisfied if their community lacked a good public library. As would be expected, the males did not appear to be as concerned with this as the females. Even so, over 75 per cent of the males in each group felt that they would be dissatisfied in their community did not possess a good public library.

In summary, it was readily evident that there was more similarity than difference among the various male and female groups regarding the type of

CHAPTER IV

community they would like to live in. Specifically, there was little difference between the sexes when it came to the provision of a good education for their children; all were quite concerned (or would be concerned) if their community lacked excellent public schools. In addition, both felt quite strongly about having an excellent local bookstore, a good library and facilities for discussion. It would appear then, that regardless of sex and amount of college education, certain community factors are deemed essential while others are considered to be less essential, viz., a good local art museum, opportunities to see live drama, and opportunities to hear live performances of serious music. (Lehmann and Dressel, 1952)

The findings of the present study indicated that with few exceptions, there was no significant relationship between amount of change in attitudes and values and time spent at college. This would suggest then, that for the most part, any experiences that are found to have an impact are either those experiences early in one's college career (and hence withdrawals would have had an opportunity to share these experiences) or are ones which are not unique to a college setting.

When we think of a college, we must think of a community--a community which is a miniature society with its unique traditions, beliefs, and customs. Living in this community is a heterogeneous group of students who have come from a variety of home backgrounds and have brought with them to college certain established traits and customs. In addition, we have a faculty which may be considered as being homogeneous in some respects but which might be very heterogeneous insofar as their attitudes and values are concerned. Also in this college community are groups or cliques or student sub-cultures, each of which may have its own "press" and its own mores. Hence, the new freshman can be expected to be exposed to a variety of forces when he arrives on campus.

CHAPTER IV

FACTORS ASSOCIATED WITH CHANGES IN ATTITUDES AND VALUES

Previous research has demonstrated that the degree and extent to which attitudes and values are modifiable depend upon the nature of the experiences, the type of contact, the personality makeup of the individual, the group's approval of new ideas, the individual's perception of the outcome, the mores of the peer group, and those experiences found in the total campus environment. Contradictory evidence has been presented regarding the impact of college on student attitudes and values (Hall, 1950; Brown and Bystrym, 1956; Jacob, 1957; Eddy, 1959; Plant, 1962; Lehmann and Dressel, 1962).

The findings of the present study indicated that with few exceptions, there was no significant relationship between amount of change in attitudes and values and time spent at college. This would suggest then, that for the most part, any experiences that are found to have an impact are either those experiences early in one's college career (and hence withdrawals would have had an opportunity to share these experiences) or are ones which are not unique to a college setting.

When we think of a college, we must think of a community--a community which is a miniature society with its unique traditions, beliefs, and customs. Living in this community is a heterogeneous group of students who have come from a variety of home backgrounds and have brought with them to college certain established traits and customs. In addition, we have a faculty which may be considered as being homogeneous in some respects but which might be very heterogeneous insofar as their attitudes and values are concerned. Also in this college community are groups or cliques or student sub-cultures, each of which may have its own "press" and its own mores. Hence, the new freshman can be exposed to a variety of forces when he arrives on campus.

When the freshman arrives on campus, he is already a group product. While he is at college, he is involved with other personalities and new experiences and now becomes a member of a student sub-culture with its atypical mores. Whether or not this new set of experiences will have any influence upon the student's behavior depends upon a variety of factors, some of the most important being his needs and personality. In order to effectively study the college culture-matrix, we must consider two factors: (1) the culture the student brings with him, and (2) the culture of the college community. Previous research using many of the present subjects indicated that there were significant socio-cultural differences in attitudes and values.

Assuming that the college community is unique and that those experiences to be found only in a college setting have a major impact upon human behavior, we should expect to find that there is very little similarity between those students who complete four years of college and their counterparts who began college at the same time but withdrew before graduation. On the other hand, if experiences which are more commonly found on a campus environment are also present in a non-college community, we should expect to find little difference between groups of various levels of education groups and between their perceptions of the impact of certain types of experiences.

Initially, it was intended that the data would be analysed using chi-square. After this had been completed and the results thoroughly studied, it was readily evident that this procedure might be very misleading since many of the experiences would not be shared by students who withdrew during their freshman year. For this reason (that of biased results) it was felt that an analysis of the most frequently rated experiences would be of more ultimate worth.

Procedure. One section of the Experience Inventory contained a list of 50 types of experiences or contacts ranging from the formal, academic (e.g.,

courses and instructors) to the informal, non-academic (e.g., close friends and persons dated). Some of the experiences were peculiar to a college environment while others were such that they would be found either in both college and non-college environments or solely in the latter. From this list, the subject was asked to check those experiences which he felt had served either to strengthen or reinforce his attitudes, values, opinions, beliefs, and interests and those which he felt had modified or altered his views. In addition, he was asked to select the three experiences which he felt had the most reinforcing effect and the three that had the most modifying effect on his attitudes and values. The frequency of response to each item for each of the four groups is presented in Table 28.

The researchers also felt that it would be of interest and value to disregard the type of impact (reinforcing or modifying) of the various experiences as well as the degree of impact, and look at the data in terms of the experience having any impact at all upon personality. These data are presented in Table 29.

Findings. It is readily evident from Table 28 that there were some experiences which were considered as being very reinforcing by nearly all subjects regardless of the length of time they attended college. At the same time, there are some experiences which are peculiar to a particular group and/or sex.

The five experiences male freshman-year withdrawals said had a very reinforcing effect were (ranked in order of frequency): Church, Natural Science 181, a course in my major, friend/s, employment, and my family. As might be expected because of their limited contact with the academic facets of college, the non-college experiences were more frequently chosen. Nevertheless, the two academic experiences chosen ranked second and third.

First set of figures for males. Those below in parentheses for females.

Table 28

Self-Perceived Impact of Various Types of Experiences

Experience	Number in each group indicating experience							
	Very Reinforcing				Very Modifying			
	I	II	III	IV	I	II	III	IV
Communication Skills 111 A Humanities Instructor	1 (4)	3 (1)	8 (0)	6 (0)	2 (1)	1 (2)	1 (3)	7 (1)
Communication Skills 112 A Communication Skills Instructor	0 (1)	3 (1)	0 (1)	7 (1)	1 (2)	1 (1)	4 (1)	6 (1)
Communication Skills 113 An instructor in your major	0 (1)	5 (2)	2 (2)	8 (2)	0 (2)	3 (2)	1 (1)	4 (2)
Natural Science 181 Any other instructor	9 (9)	8 (2)	6 (3)	13 (8)	3 (2)	4 (6)	3 (4)	13 (10)
Natural Science 182 Social Events	4 (4)	3 (2)	3 (3)	13 (9)	0 (0)	2 (8)	5 (3)	10 (7)
Natural Science 183 Athletic Events	1 (1)	2 (2)	2 (2)	8 (5)	1 (2)	1 (5)	2 (1)	3 (4)
Social Science 231 Lectures-Concert Series	2 (6)	6 (3)	9 (4)	15 (6)	3 (2)	4 (2)	5 (3)	32 (12)
Social Science 232 Extra-Curricular clubs	1 (0)	2 (2)	2 (1)	5 (3)	2 (1)	5 (2)	0 (2)	8 (10)
Social Science 233 Participation in athletics	0 (0)	3 (1)	2 (2)	6 (1)	2 (0)	1 (1)	1 (0)	7 (8)
Humanities 241 Fraternity or sorority	0 (1)	8 (3)	7 (6)	27 (17)	1 (0)	1 (4)	6 (2)	26 (8)
Humanities 242 Close friend(s)	0 (0)	4 (6)	2 (3)	23 (15)	0 (0)	2 (2)	10 (3)	28 (8)
Humanities 243 Roommate	0 (0)	4 (2)	1 (6)	21 (13)	0 (0)	2 (2)	7 (1)	21 (10)
A course in my major Discussions or "bull-sessions"	7 (21)	7 (14)	31 (32)	128 (96)	3 (7)	5 (5)	10 (8)	61 (38)
Any other course Counseling Center	1 (8)	1 (7)	3 (11)	40 (22)	1 (5)	1 (3)	8 (12)	28 (47)
A Social Science Instructor Library	2 (0)	3 (5)	9 (5)	15 (3)	3 (6)	4 (5)	12 (7)	22 (18)

First set of figures for males. Those below in parentheses for females.

Table 28 (cont'd)

Experience	Number in each group indicating experience							
	Very Reinforcing				Very Modifying			
	I	II	III	IV	I	II	III	IV
A Humanities Instructor	0 (1)	1 (10)	9 (10)	47 (18)	1 (0)	5 (1)	10 (6)	41 (18)
A Natural Science Instructor	3 (11)	9 (2)	15 (10)	20 (14)	4 (6)	4 (6)	9 (11)	13 (9)
A Communication Skills Instructor	5 (16)	4 (9)	9 (8)	27 (6)	4 (8)	3 (5)	11 (6)	23 (13)
An instructor in your major	3 (14)	5 (15)	24 (35)	134 (102)	3 (4)	4 (9)	16 (10)	80 (51)
Any other instructor	0 (1)	2 (3)	14 (10)	45 (28)	1 (9)	3 (3)	8 (17)	51 (33)
Social Events	2 (6)	3 (6)	6 (7)	43 (17)	1 (8)	2 (6)	4 (3)	18 (27)
Athletic Events	5 (3)	6 (1)	11 (2)	20 (2)	0 (0)	3 (1)	3 (4)	6 (2)
Lecture-Concert Series	0 (10)	0 (8)	7 (16)	35 (45)	0 (5)	4 (4)	5 (9)	13 (12)
Extra-Curricular clubs	1 (0)	1 (3)	5 (5)	29 (24)	2 (2)	0 (0)	2 (2)	15 (11)
Participation in athletics	1 (0)	4 (1)	15 (2)	24 (5)	1 (0)	2 (0)	5 (0)	3 (2)
Fraternity or sorority	2 (1)	1 (6)	10 (8)	70 (55)	3 (5)	7 (7)	9 (14)	59 (22)
Close friend(s)	7 (18)	16 (28)	11 (25)	97 (94)	6 (10)	7 (8)	22 (22)	76 (64)
Roommate	5 (14)	5 (14)	13 (28)	32 (48)	2 (13)	3 (8)	10 (13)	39 (39)
Discussions or "bull-sessions"	6 (15)	8 (15)	5 (29)	58 (41)	6 (15)	13 (15)	20 (27)	59 (65)
Counseling Center	2 (2)	4 (2)	3 (12)	18 (9)	2 (7)	3 (2)	11 (11)	12 (15)
Library	6 (5)	5 (0)	6 (1)	15 (4)	2 (2)	6 (2)	6 (2)	14 (5)

Table 28 (cont'd)

Experience	Number in each group indicating experience							
	Very Reinforcing				Very Modifying			
	I	II	III	IV	I	II	III	IV
Mental Hygiene Clinic	0 (0)	1 (1)	1 (0)	0 (0)	0 (0)	0 (1)	3 (0)	2 (3)
Improvement Services	1 (4)	0 (0)	0 (1)	1 (0)	0 (1)	2 (0)	1 (1)	3 (2)
Living quarters	1 (9)	2 (6)	9 (11)	21 (15)	2 (16)	2 (10)	3 (14)	39 (41)
Church	11 (12)	3 (18)	10 (32)	54 (49)	1 (9)	4 (5)	3 (4)	22 (14)
Housemother	0 (1)	0 (0)	0 (3)	9 (11)	0 (2)	0 (2)	2 (4)	3 (3)
R.A. or Head R.A.	1 (2)	3 (3)	7 (3)	11 (2)	1 (2)	3 (3)	3 (1)	11 (4)
Employment	7 (2)	7 (3)	5 (6)	50 (16)	2 (9)	5 (6)	10 (7)	61 (21)
A person I dated	6 (8)	2 (10)	13 (19)	65 (64)	3 (17)	5 (20)	11 (34)	73 (93)
Family	7 (10)	5 (17)	10 (19)	60 (68)	3 (6)	6 (2)	8 (7)	16 (11)
Conduct pattern of faculty	2 (1)	0 (0)	3 (0)	11 (7)	0 (5)	3 (6)	6 (5)	20 (6)
Conduct pattern of students	2 (5)	3 (2)	4 (5)	23 (15)	5 (16)	3 (21)	12 (22)	48 (31)
Academic adviser	0 (0)	1 (1)	5 (4)	20 (13)	0 (4)	0 (4)	8 (6)	21 (11)
Campus regulations	0 (1)	0 (1)	2 (1)	8 (8)	3 (6)	3 (3)	3 (9)	31 (21)
Being away from home	6 (23)	7 (26)	11 (18)	43 (41)	8 (20)	4 (23)	25 (33)	74 (89)
ROTC	4 (0)	5 (0)	7 (0)	35 (0)	3 (0)	5 (0)	2 (0)	45 (0)
Physical Education	2 (2)	3 (0)	4 (2)	6 (11)	1 (0)	0 (1)	1 (3)	2 (1)

When one considers that the modification factor is much more likely to occur for females than for males.

Table 28 (cont'd)

Experience	Number in each group indicating experience							
	Very Reinforcing				Very Modifying			
	I	II	III	IV	I	II	III	IV
Honors College Membership	0 (0)	1 (0)	1 (2)	9 (5)	0 (0)	1 (1)	2 (0)	4 (2)
Conforming to campus mores	1 (1)	2 (3)	3 (5)	8 (6)	3 (7)	1 (3)	7 (7)	29 (16)
Honorary Societies	0 (1)	0 (0)	0 (0)	8 (7)	0 (0)	0 (0)	0 (0)	2 (3)

The five experiences female freshman-year withdrawals said had a very reinforcing effect were (ranked in order of frequency): being away from home, a course in my major, close friend/s, a Communication Skills instructor, and discussions or "bull-sessions". Once again, as was evident for their male counterparts (and even more so), the academic aspects of college life were considered to be as important as the non-academic aspects.

The five experiences male sophomore-year withdrawals said had a very reinforcing effect were (ranked in order of frequency): close friend/s, a Natural Science instructor, Natural Science 181, Humanities 241, and discussions or "bull-sessions".

The five experiences female sophomore-year withdrawals felt had a very reinforcing effect upon their behavior were (ranked in order of frequency): close friend/s, being away from home, church, family, an instructor in my major, and discussions or "bull-sessions".

Although both the male and female sophomore-year withdrawals included a course and/or an instructor, the males were more inclined to do this than were their female counterparts. For the females, being away from home and close friends were deemed most important. This, however, is not unexpected when one considers that the emancipation factor is much more likely to occur for females than for males.

The five experiences junior-year male withdrawals stated had a very reinforcing effect upon their attitudes and values were (ranked in order of frequency): a course in my major, an instructor in my major, a Natural Science instructor, participation in athletics, and some instructor. It is readily evident that after the sophomore year, courses and instructors, especially those in the students' major, began to assume increased importance for both males and females.

The five experiences listed by female junior-year withdrawals as having had a very reinforcing effect upon their behavior were (ranked in order of importance): an instructor in my major, a course in my major, church, discussions or "bull-sessions", and roommate.

The five experiences male seniors said had a very reinforcing effect were (ranked in order of frequency): an instructor in my major, a course in my major, close friend/s, fraternity, and a person I dated.

The five experiences senior females said had a very reinforcing effect were (ranked in order of frequency): an instructor in my major, a course in my major, close friend/s, family, and a person I dated.

Although there was very little difference between senior males and females in the proportion who said that either a course (21.7 and 20.9 per cent respectively) or an instructor in their major (22.7 and 22.2 per cent respectively) had a very reinforcing effect, it would appear that the females were more susceptible than males to the influence of close friends (20.4 and 16.4 per cent respectively) and a person dated (13.9 and 11.0 per cent respectively).

Whereas senior males said that their fraternity had a very reinforcing effect on their behavior, this was not so for the females insofar as their sorority was concerned. Both freshman and sophomore female withdrawals ranked being away from home in the top five. Their male counterparts, however, did not deem this to be of paramount importance.

In summary, it is readily evident that the academic experiences were perceived by these seniors and former college students as having had a very reinforcing effect on their attitudes and values. For those who withdrew during the freshman and sophomore years, the general education courses were listed as being important. For those who withdrew during the junior year or who remained to graduate, both courses and instructors (in one's major) were perceived as having been very potent.

The five experiences that male freshman-year withdrawals perceived as having had a very modifying effect upon their attitudes and values were (ranked in order of frequency): being away from home, close friend/s, discussions or bull-sessions, conduct pattern of students, a natural science instructor, and a communication skills instructor. The only experience that had both a very reinforcing and a very modifying impact upon attitudes and values for these subjects was close friend/s. This is not unexpected however. Some friends may share views that reinforce your own while others share views that are contrary to your beliefs. It is conceivable that a given friend might share some views that are both consistent and inconsistent with yours and hence support the finding just described.

The five experiences that female freshman-year withdrawals felt had a very modifying effect upon their behavior were (ranked in order of frequency): being away from home, a person I dated, living quarters, conduct pattern of students, and discussions or "bull-sessions". Once again, it was readily evident that being away from home and discussions had both a reinforcing and a modifying effect upon these females' attitudes and values.

The five experiences that male sophomore-year withdrawals stated had a very modifying impact upon their views were (ranked in order of frequency): discussions or "bull-sessions", fraternity, close friend/s, the library, and family. For these males, the non-academic experiences played a more important

role than did the formal, academic-type experiences such as courses and instructors. In fact, one might even go so far as to say that the peer group was exerting a potent influence. This, however, is not unexpected. The responses which are unclear are those pertaining to the library and family.

Why, of all the subjects, regardless of sex and amount of college education, did these males feel that the library had a very modifying effect upon their attitudes and values? Was this really true, or did these students react to the library facilities and interpret this in their responses to this item? Why were these the only male group to mention their family?

The five experiences that female sophomore-year withdrawals felt had a very modifying effect upon their behavior were (ranked in order of frequency): being away from home, conduct pattern of students, a person I dated, discussions or "bull-sessions", and living quarters.

It is readily evident that for both male and female sophomore-year withdrawals, discussions or "bull-sessions" were felt to have had a very modifying effect on their attitudes and values. In fact, the discussions were felt by both sexes to have had both a very reinforcing and a very modifying effect. This, however, is not unexpected when one considers that in a "bull-session" a variety of views and opinions are presented on a multitude of topics. Hence, in some instances prevailing attitudes and values would be reinforced while others would be modified or altered.

The five experiences male junior-year withdrawals felt had a very modifying effect on their attitudes and values were (ranked in order of frequency): being away from home, close friend/s, discussions or "bull-sessions", instructor in my major, a social science instructor, and conduct pattern of students.

The five experiences female junior-year withdrawals felt had a very modifying effect on their views were (ranked in order of frequency): a person

I dated, being away from home, discussions or bull-sessions, close friend/s, and conduct pattern of students.

It would appear that the females, especially the junior-year withdrawals and seniors, were more susceptible to the non-academic than the academic-type experiences in contrast to their male counterparts. For both, however, friends and "bull-sessions" were rated as being very important in their lives.

The five experiences that male seniors stated had a very modifying effect on their attitudes and values were (ranked in order of frequency): an instructor in my major, close friend/s, being away from home, a person I dated, employment, and a course in my major.

The five experiences senior females said had a very modifying effect upon their personality development were (ranked in order of frequency): a person I dated, being away from home, discussions or "bull-sessions", close friend/s, and an instructor in your major.

Once again, it is readily evident that there is a great deal of similarity between senior males and females with respect to their perception of those experiences that had a very reinforcing or very modifying effect upon their attitudes, values, ideals, and beliefs. At the same time, however, there are some marked sex differences. For example, why should females be influenced by discussions but not males? Why should a "person I dated" have a greater modifying effect for females than for males? Why should being away from home affect females more than males? Why should a course in one's major have a very modifying effect for males but not for females? These and other questions deserve further study.

In summary, it would appear that the findings related to those experiences which had either a very reinforcing or a very modifying effect on attitudes and values differed somewhat depending upon sex and amount of college education

obtained. One experience that was common to nearly all the groups was the impact of close friends. Although courses and instructors were not too frequently mentioned by the freshman and sophomore-year withdrawals (inasmuch as they had very little opportunity to experience them), courses and instructors in one's major wielded a fairly powerful influence on attitudes and values.

In fact, it would appear that the formal academic experiences were more potent than the informal, non-academic experiences. Friends, discussions, "bull-sessions", and persons dated are the most frequently mentioned non-academic experiences. This, however, is to be expected. It is of further interest to note that the academic-type experiences had more of a reinforcing effect than a modifying effect. Why this was the case, is not too clear at this time.

The previous analysis of data, pertaining to the experiences or contacts these subjects felt were either very reinforcing or very modifying in regard to their attitudes and values, was only concerned with the extreme responses. As mentioned earlier, the researchers felt that it would also be of value to look at the data regardless of degree and direction. These data are presented in Table 29.

Although the impact of courses and instructors was somewhat evident when only the extremes were considered, it is more readily evident when the data was looked at regardless of degree or direction. It is to be granted that for some the experience was of a modifying nature while for others it was of a reinforcing nature. Nevertheless, the formal, academic-type experience such as specific courses or instructors, or just courses and instructors in one's major, did exert some influence in either reinforcing or modifying prevailing attitudes and values. For subjects in the withdrawal groups, as would be expected, the general education courses wielded more influence than did courses in one's major. The same trend was exhibited for instructors in the general-education sequence. This trend was more pronounced for the

Table 29

Self-Perceived Impact of Various Types of Experiences

Type of Experience	Number in each group indicating experience either modifying or reinforcing			
	I	II	III	IV
A Humanities Instructor				
Communication Skills 111	31 (59)	34 (49)	66 (53)	210 (117)
A Natural Science Instructor				
Communication Skills 112	14 (39)	35 (51)	60 (50)	218 (111)
A Communication Skills Instructor				
Communication Skills 113	11 (35)	31 (44)	58 (49)	215 (122)
An instructor in your major				
Natural Science 181	32 (62)	43 (54)	88 (72)	285 (176)
Any other instructor				
Natural Science 182	22 (41)	36 (57)	74 (67)	272 (158)
Social Events				
Natural Science 183	13 (22)	34 (47)	64 (57)	225 (124)
Athletic Events				
Social Science 231	18 (25)	33 (42)	84 (74)	314 (174)
Lecture-Concert Series				
Social Science 232	8 (10)	30 (32)	68 (49)	266 (140)
Extra-curricular clubs				
Social Science 233	6 (6)	23 (27)	64 (51)	274 (146)
Participation in athletics				
Humanities 241	4 (5)	29 (55)	70 (88)	399 (245)
Fraternity or sorority				
Humanities 242	3 (4)	20 (45)	64 (80)	398 (245)
Close friend(s)				
Humanities 243	3 (4)	16 (38)	55 (76)	388 (243)
Roommate				
A course in my major	23 (55)	29 (60)	96 (96)	446 (321)
Discussions or "bull-sessions"				
Any other course	14 (32)	18 (42)	58 (72)	296 (220)
Library				
A Social Science Instructor	15 (15)	19 (33)	54 (45)	210 (128)
Counseling Center				

First set of figures for males. Those below in parentheses for females.

Table 29 (cont'd)

Type of Experience	Number in each group indicating experience either modifying or reinforcing			
	I	II	III	IV
A Humanities Instructor	4 (5)	16 (39)	51 (55)	294 (158)
A Natural Science Instructor	26 (45)	30 (41)	61 (59)	192 (130)
A Communication Skills Instructor	25 (51)	27 (38)	58 (59)	200 (124)
An instructor in your major	18 (38)	21 (49)	81 (81)	426 (310)
Any other instructor	16 (31)	20 (36)	58 (71)	293 (210)
Social Events	21 (46)	25 (50)	61 (80)	284 (228)
Athletic Events	22 (35)	26 (41)	66 (56)	234 (115)
Lecture-Concert Series	10 (38)	19 (54)	53 (98)	263 (267)
Extra-curricular clubs	13 (16)	12 (31)	40 (47)	214 (170)
Participation in athletics	17 (9)	16 (18)	53 (24)	189 (55)
Fraternity or sorority	14 (13)	19 (34)	43 (49)	239 (149)
Close friend(s)	28 (65)	34 (82)	101 (118)	425 (363)
Roommate	24 (62)	29 (60)	87 (103)	308 (292)
Discussions or "bull-sessions"	26 (61)	37 (69)	91 (110)	403 (305)
Library	16 (33)	21 (30)	42 (47)	146 (91)
Counseling Center	21 (35)	27 (38)	64 (54)	222 (135)

Table 29 (cont'd)

Type of Experience	Number in each group indicating experience either modifying or reinforcing			
	I	II	III	IV
Mental Hygiene Clinic ship	7 (9)	6 (14)	20 (15)	69 (31)
Improvement Services scores	10 (24)	9 (22)	23 (30)	68 (38)
Living quarters	16 (56)	18 (49)	63 (91)	259 (204)
Church	18 (44)	18 (46)	46 (73)	218 (178)
Housemother	3 (30)	6 (24)	20 (50)	103 (106)
R.A. or Head R.A.	13 (24)	17 (23)	44 (37)	140 (70)
Employment	16 (26)	22 (31)	60 (50)	297 (138)
A person I dated	19 (50)	23 (62)	68 (99)	313 (312)
Family	21 (39)	22 (46)	58 (76)	270 (224)
Conduct pattern of faculty	12 (31)	13 (32)	44 (39)	187 (104)
Conduct pattern of students	23 (44)	24 (53)	62 (87)	275 (202)
Academic adviser	10 (21)	9 (28)	42 (45)	196 (121)
Campus regulations	17 (36)	18 (38)	36 (56)	202 (124)
Being away from home	23 (68)	28 (67)	75 (112)	329 (311)
ROTC	23 (4)	25 (10)	53 (10)	234 (19)
Physical Education	17 (35)	20 (30)	43 (40)	154 (84)

personality development and change. The results of this study support those

gathered in a previous study, Table 29 (cont'd)

Type of Experience	Number in each group indicating experience either modifying or reinforcing			
	I	II	III	IV
Honors College Membership	6 (6)	5 (12)	16 (15)	65 (50)
Conforming to campus mores	14 (35)	15 (48)	48 (59)	195 (125)
Honorary Societies	4 (6)	5 (12)	20 (14)	92 (80)

the effect of close friend/s. These findings would tend to support Eddy's freshman and sophomore-year withdrawals than for the junior-year withdrawals. these much more than Jacob's.

It is conceivable however that some bias exists here since there is more opportunity to indicate the influence of general education experiences. For the females, however, the majority of experiences ranked in the top five were non-academic in nature. In fact, with the exception of one or two

For both males and females in each of the college-attendance groups, it is readily evident that close friend/s and discussions or "bull-sessions" were factors that these subjects perceived as having had some impact upon their behavior. In this instance, Jacob's contention of the

As was noted earlier, the females appeared to have been influenced to a greater degree by the peer group with its accompanying mores than did the males. All groups felt that a person dated had some effect upon their attitudes and values. All the female groups, regardless of the amount of college education, felt that being away from home had a marked impact upon their behavior. Why this was so for the females but not for the males is not too clear. It is conceivable that females are more closely sheltered while at home (in contrast to their male counterparts) and hence leaving home opens up new horizons for them.

Jacob (1957) concluded that the formal, academic-type experiences, with few exceptions, had little, if any impact upon student values. Eddy (1959) maintained that the total campus environment must be considered in regard to personality development and change. The results of this study support those

gathered in a previous study (Lehmann and Dressel, 1962) in that senior students as well as students who had withdrawn felt their courses and instructors did have an impact on their attitudes and values.

When these subjects' responses were categorized, it was seen that for the males, with the exception of the junior-year withdrawals, of the five experiences ranked most important in terms of frequency, at least three of the five were either courses or instructors. The other two experiences were quasi-academic, viz., discussions or "bull-sessions" or non-academic, such as the effect of close friend/s. These findings would tend to support Eddy's thesis much more than Jacob's.

For the females, however, the majority of experiences ranked in the top five were non-academic in nature. In fact, with the exception of one or two academic-type experiences in the top five all others were non-academic in nature. In fact for the junior-year withdrawals, all of the top five experiences were non-academic. In this instance, Jacob's contention of the ineffectual impact of courses and instructors might be supported provided we based our conclusion on the withdrawal groups.

In summary, it is readily evident that there was no unanimity for the subjects (either male or female) in the various groups. What is evident, however, was the tendency for females to be more influenced by non-academic experiences than were their male counterparts. It is also evident that the withdrawal subjects, especially the males, felt their general-education experiences had some impact upon their behavior. Although the senior males and females were inclined to choose experiences in their major, they still felt (particularly the males) that the general education experiences played an important role in their lives. Friends, "bull-sessions", persons dated, and being away from home (the latter two for females only) were the most frequently mentioned non-academic experiences. This was to be expected.

CHAPTER V

RESULTS AND DISCUSSION: ADDITIONAL HYPOTHESES

In addition to the major hypothesis of this study, that is, the one related to ascertaining whether there is a significant relationship between amount of college education (as measured by length of college attendance) and degree and direction of change in traditional values and in attitudes of stereotypy and dogmatism, the researchers were also concerned with learning whether these personality or behavioral changes were related to (1) sex, and (2) general academic aptitude.

As mentioned earlier, much of the research on personality changes and higher education has been fragmentary in the sense that the studies were conducted primarily at a male or female institution. Furthermore, many of these studies failed to consider the relationship between personality changes and general academic aptitude. For this reason, the researchers posed some additional hypotheses which will now be considered in greater detail.

Hypothesis: There is no significant relationship between changes in attitudes and values and general academic aptitude.

Is general academic aptitude related to the degree and direction of change in stereotypic beliefs, dogmatism, and traditional-value orientation? In other words do the brighter subjects change more than the average or less-bright subjects? Do the brighter males change more than the brighter females? These are some of the questions to be considered in this section of the report.

Method. Using the 1958 and 1962 test scores, regression equations were computed separately for the males and females of each of the four college-attendance groups. These regression equations were then used to predict the 1962 scores for stereotypic beliefs, dogmatism, and traditional values.

A constant of 100 was added to each prediction score to remove negatives. In order to compute the amount of change between 1958 and 1962, the difference between the actual Pre-test (1958) and predicted Post-test (1962) score was computed for each subject for each of the three variables. These change scores were then correlated with the CQT total score obtained in 1958 in an attempt to learn whether or not general academic aptitude is related to certain personality changes. Findings. Since the problem of regression has not been totally controlled, even by this method, the results of the correlation analysis should be considered as suggestive only.

Previously, it was shown Table 30 1958 to 1962, there was a change for all Correlations Between CQT Total Score and Change-Scores for Males and Females on the Inventory of Beliefs, Dogmatism, Stereotypic Beliefs, Scale, and Differential Values Inventory. Specifically,

Amount of College Attendance and Senior Years	N	CQT: IB Change Score	CQT: DVI Change Score	CQT: Dog. Change Score
Less than 1 year	61 (102)	.09 (.07)	-.01 (-.11)	-.15 (.01)
4-6 terms	64 (101)	-.33** (.00)	-.09 (.07)	.29* (.12)
7-10 terms	135 (150)	.06 (.11)	-.13 (-.02)	.06 (-.04)
Seniors	562 (436)	-.01 (.00)	.02 (-.01)	.02 (.13)

First set of figures for males. Those below in parentheses for females.

* Significant at .05 level.

** Significant at .01 level.

In only two instances (and these were both for the sophomore-year male withdrawals) were the correlations higher than .25. Although the correlation analysis indicates that for the sophomore-year male withdrawals there is a statistically significant negative correlation between academic aptitude and

change in stereotypic beliefs and a significant positive relationship between academic aptitude and change in dogmatism¹⁷ the magnitude of the correlations between CQI and change was in the category of change in stereotypic beliefs strongly suggests that the relationship is not of any practical significance. In fact, one might go so far as to say that there is no real relationship between general academic aptitude and changes in stereotypic beliefs, dogmatism, and traditional-value orientation for any of the groups. In other words, the brighter subjects do not change more than the poorer (in terms of general academic aptitude) subjects. These findings support those of Plant (1962) who also reported no relationship between academic aptitude and changes in dogmatism and ethnocentrism.

Previously, it was shown that from 1958 to 1962, there was a change for all subjects, regardless of sex and amount of college education, in stereotypic beliefs, receptivity to new ideas, and value orientation. Specifically, it was shown that for both males and females, college attendance, especially in the junior and senior years was accompanied by a movement from the traditional-value orientation towards the emergent-value orientation. For the females only, however, college attendance was accompanied by a decrease in stereotypic beliefs. Although it is difficult to ascribe these changes directly to a college education per se, the findings pertaining to the relationship between change and academic aptitude strongly suggest that if a college embarks on an ambitious program to alter or modify the beliefs of its students, it should not expect this program to be more effective for one intellectual group than for another. In other words, if a college attempts to have an impact upon its students' attitudes and values, it cannot rely on the intellectual medium to assist in this change.

¹⁷ Actually, the changes are in the same direction. The manner of scoring is reversed for the two instruments.

Although there were marked sex differences in the magnitude of change, the only difference (on the basis of sex) in the magnitude of correlations between CQT and change was in the category of change in stereotypic beliefs for the sophomore-year withdrawals. The findings indicated that there was a negative relationship between change in stereotypic beliefs and general academic aptitude for the males but not for the females.

Hypothesis: There is no significant sex difference in magnitude of change in attitudes and values between 1958 and 1962 for each of the four college-education groups.

Procedure. The post-test (1962) scores for the males and females in each of the four education groups, (viz., 0-3 terms of college, 4-6 terms of college, 7-10 terms of college, and more than 10 terms of college) were compared by means of analysis of covariance. Since there were initial (1958) sex differences for each of the measures, the pre-test (1958) score was used as a covariate. In essence, this equated both males and females in terms of initial performance. Hence, any observed differences in post-test scores could be considered as a function of differences other than initial sex differences.

Results and Discussion. The pre- and post-test scores for males and females in each of the four groups are presented in Tables 31-33. The adjusted means for the significant F-ratios are also presented in Tables 31-33.

It is readily evident from Tables 31-33 that regardless of sex and amount of college education, all groups tended to become less stereotypic in their beliefs, less dogmatic and more receptive to new ideas, and with the exception of the senior males and the female, junior-year withdrawals and seniors, more traditional-value oriented from 1958 to 1962. It is further evident from looking at the net changes between 1958 and 1962, that there is no pattern of change. In some groups the males changed more than the females and vice versa. In addition, there was no pattern evident from one test to another.

Table 31

Means, Standard Deviations, F-Ratios, and Adjusted Means for the Inventory of Beliefs for Males and Females in 1958 and 1962

Amount of college education	1958		1962		Adjusted 1962 Means	
	Males $\bar{X}$	Males S.D.	Females $\bar{X}$	Females S.D.	Males	Females
0-3 terms	57.03	13.63	62.72	11.73	65.82	12.72 68.56 13.05 0.10
4-6 terms	61.03	14.65	64.15	14.28	72.31	13.22 72.34 13.87 1.10
7-10 terms	63.09	13.37	64.23	12.22	72.13	14.67 73.93 13.47 0.30
More than 10 terms	64.64	14.41	65.95	12.92	72.93	15.02 78.64 14.86 37.71** 78.13

* F = Analysis of Covariance F-ratio.

Table 32

Means, Standard Deviations, F-Ratios, and Adjusted Means for the Differential Values Inventory for Males and Females in 1958 and 1962

Amount of college education	1958		1962		Adjusted 1962 Means	
	Males $\bar{X}$	Males S.D.	Females $\bar{X}$	Females S.D.	Males	Females
0-3 terms	34.70	7.43	34.38	7.23	36.64	8.98 35.67 5.92 5.24
4-6 terms	35.44	6.72	32.39	6.91	35.82	8.08 32.80 7.42 1.68
7-10 terms	33.78	6.84	34.51	7.02	34.90	7.39 32.68 7.42 11.65** 32.58
More than 10 terms	34.81	7.04	34.24	6.87	32.41	7.63 29.63 6.79 35.05** 32.26 29.79

*F = analysis of covariance F-ratio.

** Significant at .001 level.

+ Significant at .05 level.

Table 33

Means, Standard Deviations, F-Ratios, and Adjusted Means on the Dogmatism Scale for Males and Females in 1958 and 1962

Amount of college education	1958				1962				F*	Males	Females
	Males $\bar{X}$	Males S.D.	Females $\bar{X}$	Females S.D.	Males $\bar{X}$	Males S.D.	Females $\bar{X}$	Females S.D.			
0-3 terms	172.49	24.84	168.68	25.90	155.79	27.99	151.49	23.55	0.45		
4-6 terms	172.26	27.03	164.09	28.85	151.92	24.34	148.30	23.21	0.00		
7-10 terms	167.14	23.28	163.94	23.88	152.42	23.98	149.23	24.08	0.13		
More than 10 terms	166.63	25.54	163.11	24.70	154.31	22.61	146.99	23.97	17.42**	153.22	147.86

* F = Analysis of Covariance F-ratio.

** Significant beyond .001 level.

As was discussed in Chapter III, there was a significant relationship between amount of college education and change in stereotypic beliefs for the females only. For both males and females, there was a significant difference among the four groups in respect to changes in their value orientation. However, for neither males nor females, was there any difference among the various college attendance groups in respect to changes in dogmatism.

From the data presented in Tables 31-33, the following conclusions appear to be warranted:

1. There was no significant difference between males and females, with 0-3 terms, 4-6 terms, or 7-10 terms of college education, in regard to the decrease in their stereotypic beliefs from 1958 to 1962.

2. There was no significant sex difference for any of the withdrawal groups in regard to the magnitude of their changes in dogmatism.

3. Female seniors changed significantly more in their receptivity to new ideas (lessened dogmatism) than did their male counterparts between 1958 and 1962.

4. Both male and female seniors became more emergent-value oriented between their freshman and senior years. However, the female seniors changed to a significantly greater degree than did their male counterparts. It is indeed difficult to explain the reason for this. However, when one recalls that the females were influenced to a greater degree than males by such experiences as "person dated," "close friend/s," and "being away from home," it is not unexpected that the influence of the peers and student sub-culture matrix resulted in the females becoming more "outer or other-directed" than their male counterparts.

Whereas the male, junior-year withdrawals became more traditional-value oriented between 1958 and 1962, their female counterparts became more emergent-value oriented. Once again, the amount of change in value orientation

between the sexes is significant but this time the males and females changed in completely opposite directions. This finding is more difficult to interpret inasmuch as both males and females were at college for anywhere from 7-10 terms. Again, the analysis of experiences perceived as having an impact upon attitudes and values is helpful. While the males felt that both academic and non-academic experiences influenced their behavior, the females stated that the non-academic experiences were most influential. Furthermore, the five most important non-academic experiences were related primarily to the student sub-culture, and this student culture, especially that of upper-classmen, is peer-oriented. This being the case, it is to be expected that the females would tend to become more emergent or "outer-directed" in their value orientation.

6. Both male and female freshman-year withdrawals became more traditional-value oriented between 1958 and 1962. In this case, the males changed significantly more than their female counterparts during this period.

7. Both male and female seniors became less stereotypic in their beliefs, less authoritarian, and more flexible between their freshman and senior year. Although there was some difference between the sexes when they were tested as freshmen in 1958, there was a marked difference in the amount of change that occurred between the sexes which was indicated when they were tested as seniors in 1962. During this four-year period, the females changed significantly more than the males. In other words, between 1958 and 1962, the females became much less stereotypic in their beliefs than did their male counterparts. It is conceivable of course, that the non-academic experiences so commonly mentioned by females resulted in their having more contacts with people differing in race, creed, color, personality, and outlook on life. This being the case, we would have expected that the females would change to a greater degree than the males.

It is conceivable, of course, that the experiences held in some of the general education courses (especially Natural Science

Hypothesis: There is no significant difference in critical thinking ability scores between the freshman and senior year.

Although the original design of the study called for the administration of the Test of Critical Thinking, Form G, to both the experimental and control subjects, a pilot study indicated that since this was a timed test, the results would be suspect to validity. Hence, it was decided not to administer this test to the control subjects but only to those who were still enrolled at Michigan State University (experimental group). This test was also administered to different random samples of the population at the end of their sophomore and junior years. The data were analysed by the "t"-test for correlated sample means. Because of initial sex differences on the attitudinal measures, the data for the males and females were treated separately.

Findings. Reference to Table 34 reveals that both males and females received significantly higher scores on the Test of Critical Thinking at the end of four years of college than they did when they entered Michigan State University as freshmen. This would suggest that these students became more proficient in such tasks as the selection of pertinent information, the ability to draw generalizations and make conclusions, and the ability to formulate and select relevant hypotheses. There does not appear to be any evidence that one sex changed more than the other in this trait during the four years of college. It is also readily evident that the major change in critical thinking ability (for both males and females) took place during the freshman year. There was also some improvement during the sophomore year. The junior year represented a plateau in the development of critical thinking ability, but some increase occurred again the senior year.

It is indeed difficult to explain why the major changes took place during the first two years of college. It is conceivable, of course, that the experiences held in some of the general education courses (especially Natural Science

Table 34

Means, Standard Deviations, and Test of Significance for Changes in Critical Thinking Ability for Males and Females

A. During the Freshman Year

Sex	N	Beginning of Freshman Year		End of Freshman Year		r	t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
Males	590	32.50	6.79	37.48	5.79	.70	22.64**
Females	461	33.07	6.88	37.48	6.53	.73	19.19**

B. During the Sophomore Year

Sex	N	End of Freshman Year		End of Sophomore Year		r	t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
Males	197	37.48	5.79	39.06	6.04	.76	5.27**
Females	217	37.26	6.00	38.53	6.31	.72	4.21**

C. During the Junior Year

Sex	N	End of Sophomore Year		End of Junior Year		r	t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
Males	235	39.06	6.04	38.99	6.47	.71	0.12
Females	189	38.53	6.31	38.96	6.71	.77	0.64

D. During the Senior Year

Sex	N	End of Junior Year		End of Senior Year		r	t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
Males	179	39.50	6.47	40.29	6.54	.80	2.56*
Females	144	39.06	6.67	40.08	6.42	.86	3.52**

* Significant beyond .01 level of confidence.

** Significant beyond .001 level of confidence.

In summary, it is readily evident that between 1958 and 1968 all groups (regardless of sex and length of college attendance) became less stereotypic

Table 34 (cont'd)

Means, Standard Deviations, and Tests of Significance for the
Changes in Critical Thinking Ability for Males and Females
From the Freshman to Senior Year

Sex	N	Beginning of Freshman Year		End of Senior Year		r	t
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
Males	590	32.50	6.79	39.72	6.11	.63	27.60**
Females	460	33.07	6.88	39.45	6.60	.70	26.15**

Note: The same population was used at the beginning and end of the freshman year and at the end of the senior year. However, for the sophomore and junior-year retesting phases, random samples of the remaining population were employed. Since initial tests of significance indicated that there was no marked difference among those students tested as sophomores and those tested as juniors (or those tested as juniors and those tested as seniors), insofar as initial (1958) scores are concerned, the data were extrapolated recognizing that any bias would not greatly affect the final results. Hence, the slight discrepancies in some of the data.

* Significant beyond .01 level of confidence.

** Significant beyond .001 level of confidence.

which is taken during the freshman year) resulted in these students becoming more rational, objective, and scientific. At the same time, however, other courses and instructors might have had just as marked an impact. What is significant is that the changes took place during this period. Further research should be undertaken in an attempt to isolate some of the factors most responsible for change.

In summary, it is readily evident that between 1958 and 1962 all groups, regardless of sex and length of college attendance became less stereotypic in their beliefs, less dogmatic, more receptive to new ideas, and (with the exception of the male seniors, the female junior-year withdrawals, and the female seniors) more traditional-value oriented. It was also evident that the

females underwent a more marked change than the males in many of these traits during this four-year period. Although some of the changes might be explained in terms of experiential differences, this only provides part of the answer. Is it conceivable that females, because of their personality, are more receptive to change than are their male counterparts? Are females more susceptible to the demands of their peers than the males, and if so, why? What is there about the experiences obtained at college that result in changes being more pronounced for females than for males? These are just some of the questions that deserve further study.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Statement of the Problem

The purpose of this study was to investigate the relationship between amount of college education and changes in attitudes of stereotypy and dogmatism, in traditional-value orientation, and in certain selected attitudes and views related to higher education. In addition, we were interested in studying: (1) the relationship between changes in selected personality characteristics and intelligence; (2) whether one sex changed more markedly in the four-year period from 1958-1962 in their attitudes and values; (3) some of the factors perceived by these subjects as having had some impact upon their behavior; and (4) the similarities and/or differences among the various educational groups in regard to their social, political, and economic views. In substance, we were interested in learning what effect higher education has upon the personality development of its students, and, on the other hand, whether a non-college atmosphere will produce changes in the same direction and to the same degree as does a college atmosphere.

Design of the Study

During the Fall, 1958, Orientation Week a battery of cognitive and affective tests¹⁸ was administered to 2,973 students entering Michigan State University. The only restrictions placed upon the subjects of this study, viz., native-born Americans and attending college for the first time, were

¹⁸ The major battery consisted of the following: A.C.E. Inventory of Beliefs, Form I; A.C.E. Test of Critical Thinking, Form G; Rokeach's Dogmatism Scale; Prince's Differential Values Inventory; the College Qualification Tests; the MSU Reading and Arithmetic tests; and a biographical questionnaire especially constructed for a previous study (Lehmann and Dressel, 1962).

dictated by the larger study (Lehmann and Dressel, 1962). Complete, usable test data were obtained for 2,746 students (1436 males and 1310 females). These 2,746 students were then the nucleus for the sample in this study.

The subjects for this study were selected from the 2,746 students described above. Since we were interested in studying the effects of higher education upon personality development, this total population was subdivided into four educational groups: 0-3 terms of college; 4-6 terms of college; 7-10 terms of college; and more than 10 terms of college education. The first three groups were the control groups and the latter (referred to throughout the report as seniors) was the experimental one. Complete, usable test data were obtained for 1,134 experimental subjects (650 males and 484 females) and for 667 control subjects (269 males and 398 females). Initial analysis of the data indicated that there were no significant differences between respondents and non-respondents in terms of their 1958 critical thinking ability, attitude, and value scores. Hence, generalizations can be made to the total population even though only about 65 per cent returned usable test data.

Those students who were still enrolled at Michigan State University in the Spring, 1962, were readministered the Inventory of Beliefs, Rokeach's Dogmatism Scale, the Test of Critical Thinking, Prince's Differential Values Inventory, the College Objectives, and an Experience Inventory especially constructed for the study during April and May of 1962.

Those subjects in the control groups were retested with the same battery administered to the experimental subjects (except that the Test of Critical Thinking was omitted since it is a timed test) during the summer of 1962. The controls were sent their materials through the mail. The Experience Inventory administered to the controls was modified slightly so as to determine present academic status and plans for the future. However, the same basic and broad issues were covered in both forms.

Because of initial sex differences, the data for the males and females were analysed separately. To study the relationship between amount of college education and changes in attitudes and values from 1958 to 1962, analysis of covariance was employed where initial (1958) test score was used as a covariate. The Scheffe method of post-hoc comparisons was then used for those differences that were significant in an attempt to learn where the differences existed.

To study the relationship between general academic aptitude and changes in attitudes of stereotypy and dogmatism and in traditional-value orientation, regression equations were computed to predict the post-test (1962) score. The actual pre-test (1958) and predicted post (1962) scores were used to compute a difference score which was then correlated with a measure of general academic aptitude (CQT total score).

To study whether one sex was more susceptible to change than another for each of the quantitative measures used, analysis of covariance was used where initial (1958) test score was used as a covariate. Each of the groups was analysed separately.

To study differences in responses among the various education groups on the Experience Inventory, chi-square was used.

Major Findings

The major findings of this study may be summarized as follows:

1. In nearly all instances, there was a significant improvement in critical thinking ability, a lessening of stereotypic beliefs, a movement away from an authoritarian, dogmatic, and unreceptive attitude, and a movement towards the traditional-value orientation, regardless of sex and amount of college education. The only exception was the change in value orientation for the male and female seniors and the female, junior-year withdrawals who demonstrated a trend from "inner" to "outer or other" directedness in their value system.

2. For the males, those who enrolled at Michigan State and attended for four years became less traditional-value oriented than their counterparts who enrolled at the same time but withdrew from college during their freshman, sophomore, or junior year. In fact, for the male withdrawals, those males who attended college for 0-3 terms became more traditional-value oriented (between 1958 and 1962) than their withdrawal counterparts who attended for 4-6 or 7-10 terms. A somewhat similar trend was evident for the change in value orientation for females.

3. For both males and females, there was a significant relationship between amount of college education and the degree and direction of change in some attitudes and values.

4. For both males and females, there was no significant relationship between length of college attendance and changes in dogmatism, unreceptivity to new ideas, or an attitude of open-mindedness. Although all groups changed in the same direction (that is, towards a more open-minded and flexible attitude), the amount of college education was not related to the extent of change.

5. For both males and females, there was a significant decrease in stereotypic beliefs between 1958 and 1962 regardless of amount of education. For the females only, the intensity of the decrease was related to length of college attendance; that is, the longer one attended college, the more likely was she to become less stereotypic in her beliefs in comparison to her counterpart who withdrew before graduation.

6. In the area of value change, there was no clear-cut pattern evident in the direction of change for all groups as there was in the area of attitude change. Further, the males differed from the females in many respects. The only similarities in the direction of value changes for the sexes were for

However, there was no significant relationship between length of

those who withdrew during their freshman year (became more traditional-value oriented) and for those who attended college for four years (became more emergent-value oriented).

7. There was no significant difference among the four female groups in regard to their reactions as to how interesting their classes were. For the males, however, there was a significant relationship between amount of college education and responses concerning this item. The longer a male attended college the more likely he was to feel that his classes were interesting. This progression, however, did not increase in a linear fashion.

8. For both males and females, there was no significant difference among the various education groups in regard to their ratings on the enthusiasm of the faculty. Over two-thirds of the subjects, regardless of sex and amount of college education obtained, felt that their instructors were very enthusiastic.

9. There was a significant difference among the four groups of males and females in regard to their feeling that college was more difficult than originally anticipated. Although this feeling decreased progressively with length of college attendance for males, the same trend was not evident for the females.

10. Seniors, both males and females, attached more importance (in 1962 than in 1958) to getting good grades than did those who withdrew from college during their freshman year. It was evident that the importance attached to grades differed among the various educational groups.

11. The decrease in the percentage of "no response" from the freshman-year withdrawals to seniors suggests that college may assist students in formulating opinions on some issues.

12. A sizable number of both male and females seniors indicated that they were dissatisfied with their grades.

13. Over 75 per cent of the subjects felt that college tends to liberalize one's views. However, there was no significant relationship between length of

college attendance and the nature of responses (agree, disagree, ?) to this item.

14. There was no significant relationship between amount of college education and certainty of plans for the immediate future. Over 50 per cent of the females and over 45 per cent of the males, regardless of length of college attendance, felt that they were uncertain regarding their future plans.

15. Over 60 per cent of the males and females in each of the groups felt that all college students should be required to take a series of general education courses. While there was no difference among the four male groups in their responses to this item, the reverse was true for the females. Female seniors were less favorably inclined to recommend general education courses than were female freshman and sophomore-year withdrawals.

16. The majority of subjects, regardless of sex and amount of college education, felt that a college education should place equal emphasis on both academic and social aspects of development. Although there was no significant difference among the four male groups in their response to this item, the various female groups differed markedly.

17. The majority of both males and females, both withdrawals and seniors, felt that their courses and instructors had more impact than their friends on their views and beliefs.

18. There was no clear-cut pattern evident in regard to the relationship between the amount of college education and opinions on selected social, economic, and political issues. In some cases, the findings are in the expected direction while in others, they were contrary to what would be expected.

19. Regardless of sex and amount of college education, the majority of subjects felt that Red China should not be admitted to the U.N., that medical care for the aged should be provided by the Federal Government, that the United States should continue nuclear testing in the atmosphere, that petting

and deep-kissing are appropriate sex outlets for unmarried college students, and that a person in a skilled trade is worth as much to society as one in a profession. At the same time, it was evident that there was marked difference in the proportion of subjects in each group who agreed with these statements.

20. There was substantial agreement between the males and females in the various groups in regard to their conception of the characteristics of a good college teacher. All conceived a good college teacher as a person who is active in campus activities, who is willing to discuss a student's career plans, who not only knows his field but can teach in an entertaining manner, and who judges students on objective rather than subjective criteria.

It is also evident that only four of the thirty chi-square comparisons yielded results that indicated significant differences among the various groups in regard to these characteristics of a good college teacher.

21. There was a marked difference for both males and females in the proportions of members in the various educational groups who felt that college professors should be allowed to subscribe to any ideological or political belief they wish. The freshman-year withdrawals (both male and female) felt less inclined than the seniors to agree with this. In fact, the proportion of subjects who agreed with this statement increased progressively with increased amounts of college education. Moreover, these same freshman-year withdrawals felt to a greater degree than did the seniors that the faculty should not attempt to indoctrinate students in any particular view.

22. There was a significant difference among the various groups in regard to their anticipated degree of future participation in various community activities. There was a tendency for those with more college education to indicate future participation in the country club and in cultural activities. There was no relationship, however, between amount of college education and anticipated, active participation in the PTA and in men's or women's clubs.

Some differences among the various educational groups were significant for one sex but not for the other.

23. Both senior students and former students who had withdrawn felt that the academic values should be of utmost importance to both faculty and students. Being original and creative, demonstrating scholarly capacity, and dedicating one's self to his studies were factors thought to be important by all, regardless of sex and amount of college education.

24. In the majority of instances, there was substantial agreement between the sexes insofar as their perception of selected religious concepts (God, Sin, Prayer, Eternity, Man and the Bible) was concerned. In addition, there was a fairly high degree of agreement among the various educational groups regarding their perception of these concepts. The data strongly suggest that regardless of sex and amount of college education, there was more similarity than difference with respect to attitudes regarding certain selected religious concepts.

25. For both males and females, there was a significant relationship between amount of college education and the type of community, in terms of the presence to certain facilities, they would like to live in. There was, however, substantial agreement among the various groups that in a community there should be the provision of a good education for their children, the availability of a good local bookstore, and opportunities for an active social life.

26. Courses and instructors were rarely mentioned by either the freshman or sophomore-year withdrawals (males or females) as having had a very marked impact upon their behavior. It would appear, however, that after the sophomore year, the formal, academic experiences (especially courses and instructors in the students' majors) began to assume increased importance. One can conclude that whereas the formal, academic experiences prior to the junior year were subordinate to the informal, non-academic experiences, the converse was true

after the sophomore year. Friends, discussions or "bull-sessions", person dated, and being away from home (especially for the females) were the most frequently mentioned non-academic experiences. There was, however, no unanimity. There was a tendency for the females to be more influenced than their male counterparts by the non-academic experiences. All senior students and withdrawals, especially the latter, felt that their general education experiences had some impact upon their behavior.

27. Although subjects, in general, regardless of sex and amount of college education changed in their attitudes, values, beliefs, and opinions between 1958 and 1962, the females underwent a more marked change during this period than did their male counterparts. This trend was more evident for the seniors than it was for any of the withdrawal groups.

28. Both males and females, regardless of amount of college education, were influenced to a considerable extent by their peers. However, it would appear that the females (especially the seniors) were more susceptible to the influence of their peer group than were the males.

29. Regardless of sex and amount of college education, there was, for all practical purposes, no significant relationship between either the degree or direction of personality changes and general academic aptitude.

30. The rank-order correlations (both inter- and intra-) in regard to the importance attached to vocational and general education goals were such that they indicated substantial agreement, on the importance of the general education goals, both between males and females and among the various educational groups (in 1958 as well as in 1962). Although the college freshmen were initially concerned with attending college for professional or vocational preparation, four years later they attached greater importance to obtaining a well-rounded education which includes general education courses.

31. Students and former students, in general, became more flexible and less authoritarian from 1958 to 1962; changed their attitudes towards people of different races, creeds, colors, and religions; changed their views and opinions about standards of behavior; became more aware of their own goals in life; developed a better understanding of other people; developed greater confidence in their ability to deal with new problems; began to question the absolutes in life insofar as they pertain to moral and religious conduct; and developed more interest in world affairs. Despite this general change, it is evident that there were significant differences both between the sexes and among the various educational groups in the extent to which they changed. For example, in some instances the withdrawals changed more than the seniors. In other instances the females changed more than the males. In still other instances, there was a difference among the three withdrawal groups.

32. A sizable number of students indicated that they felt they had undergone no marked change in their attitudes, values, beliefs, and interests between 1958 and 1962. This was true regardless of sex and amount of college education.

33. A small percentage of students changed in what might be termed a negative direction: that is, they became more stereotypic and prejudiced in their views, became less tolerant of others, became less receptive to new ideas, became less respectful of rules and regulations, and became less respectful of the views and opinions of other people.

34. Increased college attendance was accompanied by an increase in the proportions (both males and females) indicating that they became less attached rather than more attached to a religion that they could believe in and defend. Interestingly enough, however, is the fact that this trend was not accompanied by a proportionate increase in the numbers who had less feeling in 1962 than they had in 1958 for the value of religion as a necessity to live a mature life.

Some Implications for Higher Education

1. Although there were marked changes in attitudes, values, beliefs, and opinions for these subjects, (which varied on the basis of sex and amount of college education obtained) it was seen that in many instances the degree and direction of change were nearly identical for all educational groups. This was true, for example, in regard to dogmatic attitudes and stereotypic beliefs for males. It was also evident, that for both males and females, seniors became less traditional-value oriented between 1958 and 1962 whereas (with the exception of the female, junior-year withdrawals) the withdrawals became more traditional-value oriented. These findings raise a question of whether personality changes can be attributed to college attendance, whether they are just the result of maturation, or whether they are the impact of a general social environment. The data strongly suggest that some of the changes in attitudes and values observed here are not directly attributable to college experiences. This, however, does not deny the fact that college, per se, might have acted as a catalyst to promote continued change. In other words, the changes observed for the seniors appear to have taken place primarily during the freshman year (and the previous research by Lehmann and Dressel indicates this) or sophomore year. But for those subjects who withdrew from college after their freshman year, the changes evident in 1962 might not have taken place until 1960 or 1961 instead of during 1959. However, since both groups were retested in 1962, the catalytic effect can only be inferred at this time.

2. The magnitude of change in certain beliefs, ideals, interests, and attitudes certainly leaves much to be desired in terms of the professed aims and objectives of colleges and universities. College personnel should not feel complacent in what has occurred. In fact, one might have expected that if college does have an impact upon personality development, the changes for the seniors would have been more drastic than those occurring in the withdrawal subjects.

3. The fact that some individuals do change while others do not, even though all have had some college education, should not necessarily be interpreted as failure. It is quite conceivable that lack of change for some can be deemed as desirable as considerable change for others. However, we must marshal our resources and attempt to provide the most meaningful experiences for our college students during their freshman year, especially in the case of those for whom we feel that change is desirable. Parenthetically, we must remember that this and other suggestions are predicated on the belief that colleges have a deep concern for areas of development other than intellectual or vocational.

4. Inasmuch as the discussions and "bull-sessions" were often mentioned by all subjects regardless of sex and amount of college education as having had an impact upon their behavior, it would be advisable for our colleges and universities to seriously consider, as has Michigan State, providing dormitories that will contain not only living and formal learning facilities, but also facilities and programs so that the discussions and informal learning experiences may make use of the best resources of the university. We should also recognize that the formal, academic experiences (although for some groups they are not as potent as the non-academic experiences) play an important part in the life of students. Discussions taking place in the dormitory or living unit are seldom upon topics that are generated spontaneously by the students themselves. On the other hand, these topics do not come from a vacuum. It is conceivable that an instructor or course laid the first brick in the foundation, and hence anything which can be done to bridge the gap between classroom and informal discussions would no doubt be of immeasurable value in helping to bring about change.

5. Whereas courses and instructors in the general education area were more frequently mentioned by the freshman and sophomore-year withdrawals as

having had an impact upon personality development, while courses and instructors in the students' (and former students') majors were more frequently mentioned by the junior-year withdrawals and seniors, these findings should be interpreted with extreme caution. This does not necessarily imply that general education courses are ineffectual for students who achieve junior or senior status in altering, modifying, or reinforcing their attitudes and values. Nor does it mean that the academic experiences in one's major are more potent than those experienced as under-classmen. It does suggest, however, that when students have entered their major, they feel these experiences to be more potent, possibly because they are often closely concerned with vocational preparation. In addition, it is conceivable that the experiences in the major area were called to mind more readily because they were more recent. Or, it is possible that these upper-classmen (both students and former students) were still not fully aware of the value of general education courses and were unable to isolate any experiences that had a marked impact on their attitudes and values. unique experience for their students but that saturation and the

6. The fact that there were few instances where the magnitude and direction of change were related to general academic aptitude or sex suggests that the modification or reinforcement of attitudes and values is not restricted to a particular sex and/or level of intelligence. In other words, those who feel that personality modification through college experiences will only be successful with the average or above average in intelligence should realize that this is not necessarily the case. In addition, although the data suggested that the females were more susceptible to change than were their male counterparts, this need not imply that male attitudes and values are fixed and not malleable. To the contrary, the various male groups did change significantly, but those experiences that had an impact upon them differed from those that influenced

might shed evidence which would suggest that sex distinctions of higher learning

female personality development. This might suggest then, that college administrators attempt to capitalize on the experiences unique to each sex rather than attempt to apply the same prescription to all.

7. Although it is agreed that attitudes and values are instilled early in life and are most easily modifiable in infancy and adolescence, it is readily evident that changes do take place from age eighteen to twenty-two or older. It is therefore imperative that our colleges and universities recognize these facts and discard the notion that behavior characteristics are not their concern because it is too late to do something about them. Just as the myth that intellectual development ceases after a certain age has been discarded, so should the notion that personality change is not possible for college students be discounted. However, it is readily evident that a college education, per se, is not so instrumental in bringing about these changes although college attendance might facilitate this development. It is thus imperative that college faculty and administrators realize that they are not necessarily providing a unique experience for their students but that maturation and the social environment might have more impact upon personality development than courses and formal, academic experiences.

8. The fact that a sizable proportion of the senior students and former students indicated that they felt they had not undergone any change in their attitudes and values between 1958 and 1962 raises many questions. If indeed, these people, in line with their self-conceptions, did not change in certain personality traits over the four-year period why was this so? Was it because of certain personality characteristics inherent in the individuals or was it because they were denied the opportunity to have certain experiences? If it were the latter, was this a result of the "in loco parentis" attitude of our colleges and universities? These questions deserve further study since they might shed evidence which would suggest that our institutions of higher learning

are not derelict in their obligations to provide for maximum social and emotional development.

9. Colleges and universities should not attempt to change attitudes and values by indoctrination. Rather, they should attempt to make students become more objective, scientific, and rational in their approach to the solution of problems. This will encourage internal rather than external initiation of value change. Our institutions of higher education should try to avoid inculcating values by rules or pressure lest they promote unthinking conformity. This in fact, is the proper role of the university, as defined by the responses of the subjects in this study.

10. Colleges and universities must come to the realization that they have more than one major role to play. Although their students desire preparation for a vocation, they are equally as desirous of social and emotional development. In order to provide for this happy balance and the development of a well-rounded personality, institutions of higher learning must pay increased attention to the non-academic facets of college life.

In order for any individual to fully realize the value of his education (even if this education ceases during the freshman year) insofar as it pertains to future conduct, it is necessary for him to feel that he is part of the educational group and that he has contributed something. It is therefore suggested that college personnel seriously consider student opinion in making both academic and non-academic decisions. Until this is done, college students will feel that the institution's aims and philosophies are being foisted upon them.

11. To avoid indoctrination and at the same time to maximize their influence, colleges should make no attempt to bring about value changes until the student has been made aware of his own values and the need for change. This further suggests that our institutions of higher education should not

seek to limit knowledge and recognition by the student of varying values and of value conflicts. Going one step further, a college should not restrict its enrollments to a particular type of student exemplifying pre-ordained attitudes and values. If this were done, students would be denied one of their greatest teachers - their peers. For we have seen that it is through discussions with other students that much opportunity is afforded students to examine their views and beliefs and contrast them with those held by others. Unless comparisons are made possible, it is doubtful whether existing values will have any degree of stability. Furthermore, comparative groups give rise to provocative thinking and may encourage originality and creativity.

12. Colleges and universities must realize that the criticisms levelled at college students for becoming amoral and less religiously oriented are unfounded. It is to be granted that college students become less attached to a religious sect or denomination that they can believe in and defend. They begin to question the absolutes in life as they pertain to moral and religious conduct and may develop less acceptance of the Bible. However, it must be understood that the college years are a period of experimentation and groping. Our faculty should realize that college students will be questioning, sometimes demanding, and often independent. In the light of the needs of the individual in a changing society and of the needs of society itself, this is good and should be encouraged to its fullest. Until we realize that for these students there is no completely closed system of absolutes, we will be remiss in our obligation if we do not foster and promote thoughtful reconsideration and experimentation on the part of the student. In some instances, this may be achieved by such methods as independent study, relaxation of formal living regulations, and chance for free exchange of ideas. Whatever the medium or media which may be employed, the most important thing that college faculty must recognize is that these students are looking for and seeking answers but

that they do not want to be hampered by undue interference. It would indeed be regretful if critical and independent thinking were thought to result in the rejection of a need for moral and religious principles. This is not the case and we would be remiss in our obligation if we did not encourage this independence to the fullest.

13. Higher education should give more consideration than previously to the development of process values (that is, those which relate to the manner in which judgments and decisions are arrived at), and less to the ultimate values which are often ambiguous (truth, beauty, goodness, and so forth). If the emphasis were increased on the process values, the individual would be better equipped to cope with future value conflicts.

14. Higher education has an obligation to provide the student with knowledge so that he will be capable of continuing his independent search for further knowledge. Hence, our colleges and universities should encourage the maximizing of self-determination and appraisal on the part of its students as early as possible.

15. Attitude changes were generally in the direction of acceptance of more conventional positions (pertaining to dress, morals, and behavior), reflecting perhaps a tendency toward conformity to prevailing cultural values and attitudes.

It is quite conceivable that the changes in attitudes and values over the four-year period were a reflection of cultural attitudes which prevailed in both the college and societal settings. Hence, any differences between the two settings might have accounted for the observed differences among the four educational groups. It is quite conceivable, that for some students, campus attitudes (and for the former students, community attitudes) require either a greater or lesser conformity than those present in the individuals' pre-college environment. If this is the case, college personnel should attempt to isolate those factors that result in attitudinal change. On the basis of the findings

of this study, it would appear that an improvement in critical thinking ability; the contacts with different types of students; and the experiences gathered in "bull-sessions" are some of the means by which beliefs are attacked and attitudes changed. Hence, provisions should be made to enable students to share these experiences as early as possible in their college career.

- The Authoritarian Personality*. New York: Harper, 1950.
- Arnsperg, Beth. "Changes in Sociative Attitudes." *Journal of Applied Educational Institutions*. *Journal of Educational Psychology*, 53, 1962, 234-235. 1962.
- Bain, R. "Religious Attitudes of College Students." *American Journal of Sociology*, 32, 1927, 752-773.
- Bain, R. "Changed Beliefs of College Students." *Journal of Abnormal and Social Psychology*, 31, 1936, 1-11.
- Barton, A. H. *Studying the Effects of a College Education: A Methodological Examination of Changing Values in College*. New Haven, Conn.: Edward W. Rouse Foundation, 1952.
- Bennett, G. K. and others. *College Qualification Tests Manual*. New York: The Psychological Corporation, 1939.
- Binniewies, W. G. "Measuring the Effect of a Social Force." *Journal of Educational Sociology*, 5, 1934, 83-93.
- Boldt, W. J., and Stroud, J. B. "Changes in the Attitudes of College Students." *Journal of Educational Psychology*, 35, 1934, 611-619.
- Greenes, E. L., Remmers, J. H., and Morgan, C. L. "Changes in Liberalism-Conservatism of College Students Since the Depression." *Journal of Social Psychology*, 14, 1941, 99-107.
- Brown, D. B. and Bystryk, Denise. "College Environment, Personality, and Social Ideology of Three Ethnic Groups." *Journal of Social Psychology*, 44, 1956, 279-288.
- Brown, Donald. "Personality, College Environments, and Academic Productivity." In *The American College* (Nevitt Sanford, Ed.). New York: John Wiley and Sons, 1962.
- Buck, W. "A Measurement of Changes in Attitude and Interests of University Students Over a Ten-Year Period." *Journal of Abnormal and Social Psychology*, 31, 1936, 12-19.
- Burgewister, B. B. "The Permanence of Interests of Women College Students." *Archives of Psychology*, No. 285, 1940.
- Burton, M. V. "The Effect of College Attendance Upon Personality as Measured by the Bernreuter Personality Inventory." *Journal of Educational Research*, 38, 1945, 708-711.

BIBLIOGRAPHY

- Adorno, T. W., Frenkel-Brunswick, Else., Levinson, D. J., and Sanford, R. N. The Authoritarian Personality. New York: Harpers, 1950.
- Aresnian, Seth. "Changes in Evaluative Attitude." Journal of Applied Psychology, 27, 1943, 338-349.
- Astin, Alexander W. "An Empirical Characterization of Higher Educational Institutions." Journal of Educational Psychology, 53, 1962, 224-235. 1962.
- Bain, R. "Religious Attitudes of College Students." American Journal of Sociology, 32, 1927, 762-770.
- Bain, R. "Changed Beliefs of College Students." Journal of Abnormal and Social Psychology, 31, 1936, 1-11.
- Barton, A. H. Studying the Effects of a College Education: A Methodological Examination of Changing Values in College. New Haven, Conn.: Edward W. Hazen Foundation, 1959.
- Bennett, G. K. and others. College Qualification Tests Manual. New York: The Psychological Corporation, 1957.
- Binnewies, W. G. "Measuring the Effect of a Social Force." Journal of Educational Sociology, 8, 1934, 83-93.
- Boldt, W. J., and Stroud, J. B. "Changes in the Attitudes of College Students." Journal of Educational Psychology, 25, 1934, 611-619.
- Breemes, E. L., Remmers, H. H., and Morgan, C. L. "Changes in Liberalism-Conservatism of College Students Since the Depression." Journal of Social Psychology, 14, 1941, 99-107.
- Brown, D. R. and Bystry, Denise. "College Environment, Personality, and Social Ideology of Three Ethnic Groups." Journal of Social Psychology, 44, 1956, 279-288.
- Brown, Donald. "Personality, College Environments, and Academic Productivity." In The American College (Nevitt Sanford, Ed.). New York: John Wiley and Sons, 1962.
- Buck, W. "A Measurement of Changes in Attitude and Interests of University Students Over a Ten-Year Period." Journal of Abnormal and Social Psychology, 31, 1936, 12-19.
- Burgemeister, B. B. "The Permanence of Interests of Women College Students." Archives of Psychology, No. 225, 1940.
- Burton, M. V. "The Effect of College Attendance Upon Personality as Measured by the Bernreuter Personality Inventory." Journal of Educational Research, 38, 1945, 708-711.
- Yarnsworth, P. R. "Changes in Attitude Toward War During the College Years." Journal of Social Psychology, 5, 1937, 274-279.

- Bushnell, J., "What are the Changing Characteristics of the Undergraduate and What Do These Changes Mean for Programs of General Education?," Current Issues in Higher Education (G. Kerry Smith, Ed.) Washington: National Education Association, 1959, 137-143.
- Cantey, E., and Mull, H. K. "A Comparison of Freshman and Seniors in a Liberal Arts College in Respect to their Understanding of Social Issues." Journal of Social Psychology, 16, 1942, 335-339.
- Carlson, E. R. "Attitude Change Through Modification of Attitude Structure." Journal of Abnormal and Social Psychology, 52, 1956, 256-261.
- Clark, B. R. "College Image and Student Selection." In Selection and Educational Differentiation (T. R. McConnell, ed.). Berkeley, Calif.: Field Service Center and Center for the Study of Higher Education, 1959.
- Corey, S. M. "Attitude Differences Between College Classes: A Summary and Criticism." Journal of Educational Psychology, 27, 1936, 321-330.
- Corey, S. M. "Changes in the Opinions of Female Students After One Year at a University." Journal of Social Psychology, 11, 1940, 341-351.
- Dameron, L. E. "Mother-Child Interaction in the Development of Self-Restraint." Journal of Genetic Psychology, 86, 1955, 289-308.
- Dressel, P. L. and Mayhew, L. B. General Education: Explorations in Evaluation. Washington, D.C.: American Council on Education, 1954.
- Droba, D. D. "A Scale of Militarism-Pacifism." Journal of Educational Psychology, 22, 1931, 96-111.
- Droba, D. D. "Education and Negro Attitudes." Sociological and Social Research, 17, 1932, 137-141.
- Dudycha, G. J. "The Religious Beliefs of College Students." Journal of Applied Psychology, 17, 1933 (a), 585-603.
- Dudycha, G. J. "The Beliefs of College Students Concerning Evolution." Journal of Applied Psychology, 18, 1934, 85-96.
- Dudycha, G. J. "The Moral Beliefs of College Students." International Journal of Ethics, 43, 1933(b), 194-204.
- Eddy, Edward D., Jr. "Changing Values and Attitudes on the Campus." In Long Range Planning for Education. Washington, D.C.: American Council on Education, 1957.
- Eddy, Edward D., Jr. The College Influence on Student Character. Washington, D.C.: American Council on Education, 1959.
- Emme, E. E. "Effective Teaching in a Post-War World." School and Society, 58, 1943, 415.
- Farnsworth, P. R. "Changes in Attitude Toward War During the College Years." Journal of Social Psychology, 8, 1937, 274-279.

- Foster, J. F. S. and others. The Impact of a Value-Oriented University on Student Attitudes and Thinking. Santa Clara, Calif.: University of Santa Clara, 1961.
- Freedman, M. B., "A Half Century of Vassar Opinion," Vassar College Alumnae Magazine, 44, 1959, 3-6.
- Freedman, M. B., "What Does Research Show About the Effects of the Total Institutional Program on Student Values?", Current Issues in Higher Education, (G. Kerry Smith, Ed.), Washington: National Education Association, 1958, 102-107.
- Freedman, M. B. "Some Observations on Personality Development in College Women." Student Medicine, 8, 1960, 228-245.
- Freedman, Mervin B. The Impact of College. Washington, D.C.: U. S. Department of Health, Education, and Welfare, New Dimensions in Higher Education, No. 4. 1960.
- Garrison, K. C., and Burch, J. S. "A Study of Racial Attitudes of College Students." Journal of Social Psychology, 4, 1933, 230-235.
- Garrison, K. C., and Mann, Margaret. "An Analytic Study of the Opinions of College Students." Journal of Social Psychology, 2, 1931, 168-178.
- Gillespie, J. M. and Allport, G. W., Youth's Outlook on the Future, Garden City, New York: Doubleday, 1955.
- Gilliland, A. R. "The Attitude of College Students toward God and the Church." Journal of Social Psychology, 11, 1940, 11-18.
- Gottlieb, D. "The Socialization Process in American Graduate Schools." Unpublished Ph.D. dissertation, University of Chicago, 1960.
- Hall, Roy M. "Religious Beliefs and Social Values." Unpublished Ph.D. dissertation, Syracuse University, 1950.
- Heist, P. "Diversity in College Student Characteristics." Journal of Educational Sociology, 33, 1960, 279-291.
- Heist, P., and Webster, H. "Differential Characteristics of Student Bodies -- Implications for Selection and Study of Undergraduates." In Selection and Educational Differentiation. Berkeley, Calif.: Center for the Study of Higher Education. 1960.
- Hemming, J. "Some Aspects of Moral Development in a Changing Society." British Journal of Educational Psychology, 27, 1957, 77-78.
- Hunter, E. C. "Changes in General Attitudes of Women Students During Four Years of College." Journal of Social Psychology, 16, 1942, 243-257.
- Iffert, R. E. Retention and Withdrawal of College Students. Bulletin No. 1, Washington, D.C.: U.S. Office of Education, 1958.

- Jacob, Philip E. Changing Values in College. New York: Harper and Bros., 1957.
- James, H. E. O. "Personal Contact in School and Change in Intergroup Attitudes." International Social Science Bulletin, 7, 1955, 55-60.
- Johnson, C. S. "Racial Attitudes of College Students." Public American Sociological Society, 28, 1934, 24-31.
- Jones, E. S. "The Opinions of College Students." Journal of Applied Psychology, 10, 1926, 427-436.
- Jones, V. "Attitudes of College Students and the Changes in Such Attitudes During Four Years in College." Journal of Educational Psychology, 29, 1938, 14-25.
- Katz, D., and Allport F. H. Students' Attitudes. Syracuse, N.Y.: Craftsmen Press, Inc., 1931.
- Katz, Daniel, McClintoc, Charles; and Sarnoff, Irving. "The Measurement of Ego-Defense as Related to Attitude Change." Journal of Personality, 25, 1957, 465-474.
- Kelley, E. L. "Consistency of the Adult Personality." American Psychologist, 10, 1955, 659-681.
- Kerr, W. A. "Correlates of Politico-Economic Liberalism-Conservatism." Journal of Social Psychology, 20, 1944, 61-77.
- Kuhlen, R. G. "Changes in the Attitudes of Students and Relations of Test Responses to Judgments of Associates." School and Society, 53, 1941, 514-519.
- Kurtz, P. W. "Human Nature, Homeostasis, and Value." Philosophy and Phenomenological Research, 17, 1956, 36-55.
- Lehmann, I. J., and Dressel, P. L. Critical Thinking, Attitudes, and Values in Higher Education: Final Report of Cooperative Research Project No. 590. East Lansing: Michigan State University, 1962.
- Lehmann, I. J., and Payne, Isabelle K. "An Exploration of Attitude and Value Changes of College Freshmen." Personnel and Guidance Journal, 41, 1963, 403-408.
- Lins, L. J. and Pitts, H. "The 'Staying Power' and Rate of Progress of University of Wisconsin Freshmen." College and University, 29, 1953, 86-99.
- Marquis, D. G. "College Influences on Personality Development: Report of a Research Planning Conference." Items 12, 1958, 27-30.
- Mayhew, L. B. "And in Attitudes." Evaluation in the Basic College (Paul L. Dressel, Ed.) New York: Harper and Bros., 1958.

- McGuigan, F. Joseph. "Psychological Changes Related to Intercultural Experiences." Psychological Reports, 4, 1958, 55-60.
- Miller, Eleanor O. "Non-Academic Changes in College Students." Educational Record, 40, 1949, 118-122.
- Morris, Charles. Varieties of Human Value. Chicago: University of Chicago Press, 1958.
- Murray, A., and Kluckhohn, Clyde. "Outline of a Conception of Personality." In Personality, Nature, Society, and Culture (C. Kluckhohn, ed.). 2nd ed. New York: Alfred Knopf and Co., 1956.
- Nelson, Erland N. P. Radicalism-Conservatism in Student Attitudes. Psychological Monographs No. 4. Washington, D. C.: American Psychological Association, 1938.
- Nelson, Erland N. P. Patterns of Religious Attitude Shift from College to Fourteen Years Later. Psychological Monographs No. 424. Washington, D. C.: American Psychological Association, 1956.
- Newcomb, Theodore M. Personality and Social Change. New York: Dryden Press, 1943.
- Newcomb, Theodore M. "Student Peer-Group Influence." In The American College (Nevitt Sanford, Ed.). New York: John Wiley and Sons, Inc., 1962.
- Palubinskas, Alice L. "Personality Changes in College Women During Four Years of College Experience." Proceedings of the Iowa Academy of Science, 59, 1952, 389-391.
- Plant, W. T. "Changes in Ethnocentrism Associated with a Two-Year College Experience." Journal of Genetic Psychology, 92, 1958(a), 189-197.
- Plant, W. T. "Changes in Ethnocentrism Associated with a Four-Year College Education." Journal of Educational Psychology, 49, 1958(b), 162-165.
- Plant, W. T. Personality Changes Associated with a College Education. San Jose, Calif.: San Jose State College, 1962.
- Plant, W. T. The Psychological Impact of the Public Two-Year College on Certain Non-Intellectual Functions. San Jose, Calif.: San Jose State College, 1963.
- Pressey, S. L. "Changes from 1923 to 1943 in the Attitudes of Public School and University Students." Journal of Psychology, 21, 1946, 173-188.
- Prince, R. "A Study of the Relationship Between Individual Values and Administrative Effectiveness in the School Situation." Unpublished Ph.D. dissertation, University of Chicago, 1957.
- Rauschenbush, Esther. "Changing Values and Attitudes on the Campus - A look to the Future." In Long Range Planning for Education. Washington, D.C.: American Council on Education, 1957.

- Riesman, David. "The Jacob Report." American Sociological Review, 23, 1958, 732-738.
- Robertson, A. E., and Stromberg, E. L. "The Stability of Personality Ratings During College Residence." School and Society, 50, 1939, 639-640.
- Rokeach, Milton. Political and Religious Dogmatism? An Alternative to Authoritarian Personality. Psychological Monographs No. 425. Washington, D. C.: American Psychological Association, 1956.
- Rokeach, Milton. The Open and Closed Mind. New York: Basic Books Inc., 1960.
- Rosenberg, M. "Psychological Depression and Educational Attitudes." Student Medicine, 5, 1956, 5-20.
- Sanford, Nevitt (Ed.). "Personality Development During the College Years." Journal of Social Issues, 12, 1956, 3-72.
- Sanford, N., "The Students We Teach Today," in Record, a biennial publication of the National Association for the Physical Education of College Women, Syracuse University, Syracuse, N. Y., 1956.
- Sanford, N., "The Professor Looks at the Student," in The Two Ends of the Log - Learning and Teaching in Today's College, (Russell M. Cooper, Ed.) Minneapolis: University of Minnesota Press, 1958, 3-25.
- Sanford, Nevitt (Ed.). The American College. New York: John Wiley and Sons, Inc., 1962.
- Smith, H. P. "Do Intercultural Experiences Affect Attitudes?" Journal of Abnormal and Social Psychology, 51, 1955, 469-477.
- Sowards, Genevieve S. "A Study of the War Attitudes of College Students." Journal of Abnormal and Social Psychology, 29, 1934, 328-333.
- Stern, G. G. "Student Values and Their Relationship to the College Environment." In Research on College Students (Hall T. Sprague, Ed.). Boulder, Colorado: The Western Interstate Commission for Higher Education, 1960.
- Stern, George G. "Environments for Learning." In The American College (Nevitt Sanford, ed.). New York: John Wiley and Sons, Inc., 1962.
- Symonds, P. M. "A Social Attitudes Questionnaire." Journal of Educational Psychology, 16, 1925, 316-322.
- Thurstone, L. L., and Chave, E. J. The Measurement of Attitude. Chicago: The University of Chicago Press, 1929.
- Trow, M. "The Campus Viewed as a Culture." In Research on College Students (Hall T. Sprague, Ed.). Boulder, Colorado: The Western Interstate Commission for Higher Education, 1960.

Wagman, M. "Attitude Change and Authoritarian Personality." Journal of Psychology, 40, 1955, 3-24.

Webster, Harold. "Changes in Attitudes During College." Journal of Educational Psychology, 49, 1958, 109-117.

Webster, Harold; Freedman, Mervin and Heist, Paul. "Personality Changes in College Students." In The American College (Nevitt Sanford, Ed.). New York: John Wiley and Sons, Inc., 1962.

Willoughby, R. R. "A Sampling of Student Opinion." Journal of Social Psychology, 1, 1964, 164-169.

Yoshino, R. "College Drop-Outs at the End of the Freshman Year." Journal of Educational Sociology, 32, 1958, 42-48.

APPENDIX

Cooperative Study on Attitudes and Values of College Students

Institutions of higher learning feel that they can be of greater service if they attempt to ascertain the opinions and observations of students and former students in regard to those aspects of the university experiences which are felt to be of importance.

This inventory consists of a number of sections containing items about your reactions to your college experience. It is hoped that you will feel free to give frank and sincere responses. Your cooperation in this endeavor will insure that MSU will have a more accurate perspective regarding its programs and their effectiveness. All information will be treated as confidential and will be used for research purposes only.

* * * * *

General Directions: Each of the questions on this inventory can be responded to by means of a coded key. For each question, write the code number of the answer appropriate to you in the code column blank at the right. Please read each question carefully and make sure that you are using the appropriate code. Answer all items.

* * * * *

Part I: Items 1 - 5

Compare how you thought you would spend your time at MSU with how you actually did according to the following code:

	Code
More than I thought	1
Same as I thought	2
Less than I thought	3

Part II: Items 6 - 11

Below are a number of statements. Please rate each of them in terms of your own experiences at MSU using the following code:

	Code
Strongly agree	1
Agree	2
Disagree	3
Strongly disagree	4

	Code	IBM No.
1. Time spent on studies.	_____	(7)
2. Contact with faculty	_____	(8)
3. Participation in school activities _____	_____	(9)
4. Dating	_____	(10)
5. Prejudice because of social or religious background _____	_____	(11)

* * * * *

	Code	IBM No.
6. Generally, I found my classes pretty interesting. _____	_____	(12)
7. Most of my instructors were enthusiastic about their teaching. _____	_____	(13)
8. College is not as tough as I thought it would be. _____	_____	(14)
9. Generally, I spent less time on my studies than I thought I would. _____	_____	(15)
10. Getting good grades does not seem as important now as it once did. _____	_____	(16)
11. MSU is the kind of school a person should go to if he really wants a good education. _____	_____	(17)

* * * * *

Part III: Items 12 - 29

The following questions refer to some general reactions that you might have about a variety of issues. Please react to each question using the following code and mark your answer in Code Column A.

	Code
Strongly agree.....	1
Agree	2
Disagree.....	3
Strongly disagree.....	4
No opinion.....	5

	Code A	IBM No.	Code B	IBM No.
12. Red China should be admitted to the U.N....	_____	(18)	_____	(36)
13. College professors should be allowed to subscribe to any ideological or political belief they wish	_____	(19)	_____	(37)
14. College professors should be required to take a loyalty oath.	_____	(20)	_____	(38)
15. My friends have had more impact on my views and beliefs than have courses or instructors.	_____	(21)	_____	(39)
16. A student should report another student cheating on an examination. .	_____	(22)	_____	(40)
17. College teachers, on the average, tend to be conservative	_____	(23)	_____	(41)
18. College tends to liberalize one's views	_____	(24)	_____	(42)
19. I am satisfied with my grades	_____	(25)	_____	(43)
20. I know exactly what I will be doing in the immediate future	_____	(26)	_____	(44)
21. The United States should prevent known communists from entering or visiting this country	_____	(27)	_____	(45)
22. Communists should not be permitted to speak on our campus	_____	(28)	_____	(46)
23. Medical care for the aged should be provided by the Federal government	_____	(29)	_____	(47)
24. The United States should continue nuclear testing in the atmosphere .	_____	(30)	_____	(48)
25. Petting and deep-kissing are appropriate sex outlets for unmarried college students.	_____	(31)	_____	(49)
26. All college students should be required to take a series of general education courses	_____	(32)	_____	(50)
27. I wouldn't hesitate to take a towel as a souvenir from a hotel in which I stayed	_____	(33)	_____	(51)
28. A college education should place equal emphasis on academic and social development	_____	(34)	_____	(52)
29. A person in a skilled trade is worth as much to society as one in a profession	_____	(35)	_____	(53)

We would also like to know how you would have reacted to each of the above statements (12-29) if we were to have asked these questions when you were a freshman. Please reread the questions and try to answer them this time, reacting as a freshman. Use the same code, but place your responses in Code Column B.

Part IV: Items 30 - 38

People engage in a number of activities as adults. We would like to know how active a role you eventually will play in each of the following. Please rate each of the activities using the following code:

	Code
Very active.....	1
Active.....	2
Not very active.....	3
None.....	4
No idea.....	5

	Code	IBM No.		Code	IBM No.
30. Local politics	_____	(54)	34. Chamber of Commerce	_____	(58)
31. Church activities	_____	(55)	35. Men's or Women's clubs	_____	(59)
32. PTA	_____	(56)	36. Charitable civic groups	_____	(60)
33. Scouting	_____	(57)	37. Country club	_____	(61)
			38. Cultural groups (Art. Music, etc.)	_____	(62)

Part V : Items 39 - 54

These sixteen questions refer to your conception of a good college teacher.

The characteristics of a good college teacher are many and varied. Listed below are a number of characteristics which others have considered important to a good teacher. Indicate how you feel about each statement. Please rate each statement according to the following code:

Code: 1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree

Code	IBM No.		Code	IBM No.
A good college teacher				
39. is active in civic affairs. (1)	(63)	48. is willing to help students decide on how they should stand on things like politics and religion. (10)	(72)	
40. is active in campus activities. (2)	(64)	49. is someone who judges a student on his work and not on how he dresses or looks. (11)	(73)	
41. is willing to discuss a student's career plans. (3)	(65)	50. is someone who really makes students produce. (12)	(74)	
42. is willing to discuss a student's personal problems. (4)	(66)	51. is someone who is willing to give the student a break when the student doesn't do his work. (13)	(75)	
43. is a person who can teach in an entertaining manner. (5)	(67)	52. permits students to take part in deciding the course objectives. (14)	(76)	
44. is someone who sticks to teaching and does not act as a "buddy" to students. (6)	(68)	53. does not attempt to indoctrinate his students in a particular political, religious, or ideological belief. (15)	(77)	
45. is active in religious affairs. (7)	(69)	54. Of the 15 characteristics listed above, which one do you feel is the most important characteristic for a good college teacher.	(78)	(79)
46. is someone who really knows his field. (8)	(70)			
47. does not give out a lot of reading assignments. (9)	(71)			

* * * * *

Part VI: Items 54a - 54c

This section requires some writing. Do not spend too much time on any one item but be as specific as possible.

54(a) The most important (or significant) thing that I learned at MSU was

54(b) The experience or activity which has been most profitable to me at MSU was (what and why)

54(c) The experience that has had the greatest impact on me was (what and how)

Part VII: Items 55 - 60

Listed below are six religious concepts. Please indicate your definition for each of the major concepts. Read the seven statements under each concept and select the statement that most nearly agrees with your attitude regarding that concept. Record the number of the statement in the code blank at the right of the major concept.

	<u>Code</u>	<u>IBM No.</u>		<u>Code</u>	<u>IBM No.</u>
55. <u>The Bible.</u>		(7)	58. <u>God</u>		(10)
1. The Bible is inconsistent, contradictory and exaggerated in value.			1. God is our creator and judge who observes everything that we do.		
2. The Bible is a collection of myths.			2. God exists as a divine being.		
3. The Bible is a great literary work expressing religious philosophy.			3. God exists as a supernatural power beyond man's comprehension.		
4. The Bible is valuable because of its inspirational effect.			4. God probably exists but no one knows what he is like.		
5. The Bible is an account of man's experiences with God.			5. The concept of God is a means of explaining the unknown.		
6. The Bible is God's revelation written by inspired men.			6. God is a projection of man's unconscious mind.		
7. The Bible was dictated by God through the hand of man and is infallible.			7. There is no supernatural being.		
56. <u>Prayer.</u>		(8)	59. <u>Sin</u>		(11)
1. Prayer is a direct approach to God which will always bring results if there is enough faith.			1. Sin is a religious concept used to create guilt feelings in man.		
2. Prayer is communication with God.			2. Sin consists of behavior which is not culturally approved.		
3. Prayer is a means of bringing man into a proper relationship with God.			3. Sin consists of a violation of the rights of others.		
4. Prayer may be communion with God but how it is effected is not understood.			4. Sin is a violation of one's conscience.		
5. Prayer is a means of relieving anxiety.			5. Sin is a denial of our best nature.		
6. Prayer can be equated with strong wishes or desires.			6. Sin consists of any thought, word or deed that interferes with a proper relationship to God.		
7. Prayer is only a superstitious practice.			7. Sin consists of a wilful participation in worldly acts that transgress Divine Law.		
57. <u>Man.</u>		(9)	60. <u>Eternity</u>		(12)
1. Man represents no more than the highest order of evolution.			1. After physical death there will be a judgment in which each man is sent to heaven or hell.		
2. Man is a biological organism with distinctive powers of memory and rational thought.			2. All men will some day be responsible for their relationship to God.		
3. Man is a psychological organism with spiritual needs.			3. Heaven and hell are symbols of our relationship to God after physical death.		
4. The nature and significance of man are not determinable.			4. Probably man does not have a separate identity after death, yet he participates in a kind of immortality.		
5. Man has both a body and a soul with the soul being the more essential.			5. Man's immortality consists in the influence that he leaves behind him at death.		
6. Man is the created object of God's love.			6. The concept of eternity is a manifestation of man's fear of death.		
7. Man is a descendant of Adam who was created from the dust of the earth.			7. Our present life constitutes the whole of our existence.		

* * * * *

Part VIII: Questions 61 - 86

Below is a list of objectives which may apply to various courses and experiences in college. You are to rate them as to their importance of being achieved. Use the following code and mark your answer in Code Column A.

- Code A.** 1. Very important (Essential that this be achieved)
 2. Average importance (Desirable that this be achieved)
 3. Little importance (Not important that this be achieved)

	<u>Code A</u>	<u>IBM No.</u>	<u>Code B</u>	<u>IBM No.</u>
61. To master a classification of knowledge in a field	_____	(13)	_____	(39)
62. To master certain techniques applicable to one's vocation or field of special interest	_____	(14)	_____	(40)
63. To acquire specific information and techniques in preparation for further study in a particular field.	_____	(15)	_____	(41)
64. To acquire and use the skills and habits involved in critical and constructive thinking	_____	(16)	_____	(42)
65. To develop a code of behavior based on democratic and ethical principles	_____	(17)	_____	(43)
66. To express one's thoughts effectively.	_____	(18)	_____	(44)
67. To recognize the fact of world interdependence	_____	(19)	_____	(45)
68. To learn to get along with people.	_____	(20)	_____	(46)
69. To acquire a degree of expertness in a special field	_____	(21)	_____	(47)
70. To experience a realistic sampling of one's chosen vocation.	_____	(22)	_____	(48)
71. To attain a satisfactory emotional and social adjustment	_____	(23)	_____	(49)
72. To understand other cultures and people.	_____	(24)	_____	(50)
73. To know the major developments in a vocational field or field of special interest	_____	(25)	_____	(51)
74. To understand the ideas of others	_____	(26)	_____	(52)
75. To habitually apply scientific thought to the discovery of facts . . .	_____	(27)	_____	(53)
76. To bring up to date one's knowledge in a special field of interest or a vocational field	_____	(28)	_____	(54)
77. To become proficient in one's chosen field of work	_____	(29)	_____	(55)
78. To understand and enjoy literature, art and music	_____	(30)	_____	(56)
79. To understand one's physical and social environment.	_____	(31)	_____	(57)
80. To develop certain manual skills	_____	(32)	_____	(58)
81. To move smoothly from high school to adult independence.	_____	(33)	_____	(59)
82. To develop a broad general outlook and familiarity with a variety of subjects	_____	(34)	_____	(60)
83. To develop knowledge and understanding making possible a more effective choice of one's life work.	_____	(35)	_____	(61)
84. To acquire knowledge and attitudes basic to a satisfying family life .	_____	(36)	_____	(62)
85. To develop the ability to do significant independent research	_____	(37)	_____	(63)
86. To maintain and improve one's own health	_____	(38)	_____	(64)

We are also interest in learning the degree to which each of the objectives listed above was realized. Please rate each of the objectives in Code Column B, using the following code:

- Code B:** 1. Very well achieved
 2. Moderately achieved
 3. Not achieved

Part IX: Questions 87-125

College affects or influences people in different ways; e.g., some people change in one way, others change in another way, and still others may not change at all. An experience which might have some effect on one person is ineffectual on another.

In this section, a variety of behavior traits is presented. Although all of them may not apply to you, we are interested in learning those which you feel describe changes that have come about in you while you have been at college. In other words, in what ways are you different now from what you were like when you entered as a freshman?

Read each of the statements below and give your frank opinion. Since there are no right or wrong answers, do not spend too much time on any one of the statements. Do not skip any items. React to each statement according to the following code:

- Code: 1. More (i.e., I tend to possess more of this quality.)
2. Less (i.e., I tend to possess less of this quality.)
3. Same (i.e., I am not conscious of any change.)

	Code	IBM No.		Code	IBM No.
87. Tolerance of people differing in race, creed, color, or religion...	___	(65)	107. Attachment to a religious sect or denomination that I can believe in and defend.....	___	(11)
88. Respect for the views and opinion of other people.....	___	(66)	108. Respect for law.....	___	(12)
89. Respect for views and opinions opposite to mine.....	___	(67)	109. Respect for rules and regulations..	___	(13)
90. Tolerance of unconventional dress, behavior, and manners.....	___	(68)	110. Respect for persons in positions of authority.....	___	(14)
91. Insight into the behavior of other people.....	___	(69)	111. Feeling that money is of primary importance.....	___	(15)
92. Ability to get along with other people.....	___	(70)	112. Desire to accept a job for the satisfaction it has to offer rather than the salary it pays.....	___	(16)
93. Interest in political matters.....	___	(71)	113. Drive to get ahead as quickly as possible.....	___	(17)
94. Interest in social issues.....	___	(72)	114. Feeling that a major aim of college is to prepare one for a vocation or profession.....	___	(18)
95. Interest in intellectual and cultural matters.....	___	(73)	115. Feeling that a college should also stress a liberal-arts type of education.....	___	(19)
96. Interest in scientific developments	___	(74)	116. Feeling that a college education is necessary to succeed in the world.....	___	(20)
97. Interest in world affairs.....	___	(75)	117. Importance of grades as measures of achievement.....	___	(21)
98. Ability to adjust to conditions not to my liking.....	___	(76)	118. Confusion as to what I want out of life.....	___	(22)
99. Ability to accept disappointment..	___	(77)	119. Optimistic outlook for my future...	___	(23)
100. Ability to change my views in the presence of facts.....	___	(78)	120. Pessimistic outlook for my future..	___	(24)
101. Confidence in my ability to deal with new problems.....	___	(79)	121. Optimistic outlook for future of civilization.....	___	(25)
102. Responsibility for my own behavior	___	(80)	122. Pessimistic outlook for the future of civilization.....	___	(26)
103. Dependence on class attendance for learning.....	___	(7)	123. Feeling of the necessity for religious faith for living in modern times.....	___	(27)
104. Feeling that the quality of one's education depends on the institution rather than the individual...	___	(8)	124. Commitment to a set of religious beliefs.....	___	(28)
105. Dependence on my age group for behavior patterns.....	___	(9)	125. Awareness of my goals in life.....	___	(29)
106. Acceptance of the Bible as a guide to modern living.....	___	(10)			

Part X : Questions 126 - 175

Listed below are courses, personnel, activities, and organizations which probably have strengthened or reinforced, modified or altered the beliefs that you had when you came as a freshman. We are interested in knowing which of these have influenced you the most.

Place a ☒ before those which you feel have served to strengthen or reinforce your attitudes, values, opinions, beliefs, and interests. Place a ☒ before the THREE you feel had the most reinforcing influence.

Place an X before those which you feel have modified or altered some of your attitudes, values, opinions, beliefs, and interests. Place an XX before the THREE you feel had the most influence.

- | | | |
|--|---|--|
| ☐ 126. Communication Skills 111 | ☐ 143. A Communication Skills instructor | ☐ 160. Church |
| ☐ 127. Communication Skills 112 | ☐ 144. An instructor in your major | ☐ 161. Housemother |
| ☐ 128. Communication Skills 113 | ☐ 145. Any other instructor | ☐ 162. R.A. or Head R.A. |
| ☐ 129. Natural Science 181 | ☐ 146. Social events | ☐ 163. Employment |
| ☐ 130. Natural Science 182 | ☐ 147. Athletic events | ☐ 164. A person I dated |
| ☐ 131. Natural Science 183 | ☐ 148. Lecture-Concert Series | ☐ 165. Family |
| ☐ 132. Social Science 231 | ☐ 149. Extra-curricular clubs | ☐ 166. Conduct patterns of faculty |
| ☐ 133. Social Science 232 | ☐ 150. Participation in athletics | ☐ 167. Conduct patterns of students |
| ☐ 134. Social Science 233 | ☐ 151. Fraternity or sorority | ☐ 168. Academic adviser |
| ☐ 135. Humanities 241 | ☐ 152. Close friend(s) | ☐ 169. Campus regulations |
| ☐ 136. Humanities 242 | ☐ 153. Roommate | ☐ 170. Being away from home |
| ☐ 137. Humanities 243 | ☐ 154. Discussions or "bull-sessions" | ☐ 171. ROTC |
| ☐ 138. A course in your major | ☐ 155. Counseling Center | ☐ 172. Physical Education |
| ☐ 139. Any other course | ☐ 156. Library | ☐ 173. Honors College Membership |
| ☐ 140. A Social Science instructor | ☐ 157. Mental Hygiene Clinic | ☐ 174. Conforming to campus mores |
| ☐ 141. A Humanities instructor | ☐ 158. Improvement Services | ☐ 175. Honorary Societies |
| ☐ 142. A Natural Science instructor | ☐ 159. Living quarters | |

* * * * *

Part XI : Questions 176 - 182

In every college that we know of, some students seem to have a very high standing, and some seem to have a low standing. But the reasons seem different in the different colleges and universities.

Listed below are nine factors which might lead to high prestige. We would like to know those factors which you feel to be important to students, to faculty, and to both students and faculty. The factors are as follows:

1. Being original and creative
2. Having a pleasing personality
3. Demonstrating scholarly capacity
4. Being active in campus activities
5. Dedicating yourself to your studies
6. Not being too critical
7. Coming from the right social background
8. Being active in varsity athletics
9. Being a member of a fraternity or sorority

- | | Code | IBM No. |
|--|-------|---------|
| 176. As a freshman, which of these factors did you feel gave a student prestige with the faculty? | _____ | (30) |
| 177. Now that you have nearly completed college, which of these factors do you feel gives a student prestige with the faculty? | _____ | (31) |
| 178. Which single factor do you feel is the most important with the faculty? | _____ | (32) |
| 179. Which single factor do you think should be most important to faculty? | _____ | (33) |
| 180. Which factors do you feel give a student prestige with his fellow students? | _____ | (34) |
| 181. Which single factor do you think is most important to students? | _____ | (35) |
| 182. Which single factor do you think should be most important to students? | _____ | (36) |

Part XII: Questions 176 - 180

In every college that we know of, there are different kinds of students who enjoy doing different kinds of things. Listed below are some comments or descriptions about the kinds of students you might find in any American college. Read each of these over and then answer the questions which follow as best as you can. We know that it is difficult to "peg" yourself in some slot but please make a choice for each of the five questions. Place the LETTER of the TYPE which most accurately describes you in the blank column at the right.

TYPE W: This kind of person is interested in education, but primarily to the point of preparation for his occupational future. He is not particularly interested in the social or purely intellectual phases of campus life, although he might participate in these activities on some limited basis. This person does his homework so that grades can be maintained, but otherwise restricts his reading to the light, general entertainment variety. For the most part, this person's primary reason for being in college is to obtain vocational or occupational training.

TYPE X: This person is interested in learning about life in general, but in a manner of his own choosing. He is very interested in the world of ideas and books, and eagerly seeks out these things. Outside of the classroom, this person would attend such activities as the lecture-concert series, Provost lectures, foreign films, etc. This person wants to go beyond the mere course requirements and will frequently do extra readings in order to obtain a more complete understanding of the world in which he lives. From a social point-of-view, this person tends to reject fraternities, sororities, and the social events that are a part of campus life. When this person does join, it will usually be one of the political or more academic campus organizations. For the most part, this person would consider himself to be someone who is primarily motivated by intellectual curiosity.

TYPE Y: This person is in many respects like Type X noted above. He is concerned with books and the pursuit of knowledge, but is also the kind of person who does not cut himself off from the more social phases of campus life. He is interested in getting good grades and usually tries to maintain a fairly high grade-point-average. He is the kind of person who will work with student government, the campus U.N. and activities of this type. He is the kind of person who feels that the social side of college life is not the most important but is certainly significant for his general development.

TYPE Z: This is the kind of person who is very much concerned with the social phases of college life. He identifies closely with the college and tries to attend as many of the campus social and athletic events as possible. This person may be interested in intellectual kinds of things but will, for the most part, find greater satisfaction in parties, dances, football games, etc. He is concerned about his education, but feels that the development of his social skills is certainly important. His college years are centered about fraternity and sorority activities even though he might not be a member. This person attempts to "make grades" but will rarely go out of his way to do extra or non-assigned readings.

Now that you have read each of the four descriptions, answer the following questions:

- | | Code | IBM
No. |
|---|-------|------------|
| 176. Which of the above (W,X,Y,Z) comes <u>closest</u> to describing the kind of person you consider yourself to be? | _____ | (37) |
| 177. Which of the above is <u>least</u> descriptive of the kind of person you consider yourself to be? | _____ | (38) |
| 178. Which of the above comes <u>closest</u> to describing the kind of person you were when you first came to college? | _____ | (39) |
| 179. Which of the above types comes <u>closest</u> to describing the kind of person you <u>would</u> like to be if you had a choice? | _____ | (40) |
| 180. Which of the above types comes closest to describing the typical MSU student? | _____ | (41) |
| * * * * * | | |
| 181. What type of job, position, vocation, or profession, do you plan to engage in after graduation? e.g. medical doctor, elementary school teacher, civil engineer, etc. _____ | | |
| | | |
| 182. If this is any different from the plans you had when you entered as a freshman, answer questions 183 and 184. If NO, skip to question 185. | | |
| 183. What job or profession or type of work did you plan to engage in when you were a freshman? _____ | | |
| | | |
| 184. Why did you change your plans? _____ | | |

Part XIII: Items 184 - 187

A person's decision for choosing one job or career over another may rest on one or more of the following factors:

1. Making a lot of money
2. Opportunities to be original and creative
3. Opportunities to be helpful to others or useful to society
4. Avoiding a high pressure job which takes too much out of you
5. Living and working in a world of ideas
6. Freedom from supervision in my work
7. Opportunities for moderate but steady progress rather than the chance of extreme success or failure
8. Opportunities to exercise leadership
9. Remaining in the city or area in which I grew up
10. Opportunities to work with people rather than with things
11. Other(specify) _____

- | | Code | IBM No. |
|---|-------|---------|
| 184. Which of these factors do you now feel is important in choosing a career or job?
(You may choose more than one) | _____ | (42) |
| 185. Which of these factors <u>did</u> you feel to be important when you were a freshman?
(You may choose more than one) | _____ | (43) |
| 186. Of the 11 factors listed above, which <u>ONE</u> do you <u>now</u> consider is the <u>most</u> important factor to be considered in picking a job or career? | _____ | (44) |
| 187. Which <u>single</u> factor do you think is most important to the average college student?
(Choose only ONE). | _____ | (45) |

Part XIV: Items 188 - 190

- | | Code | IBM No. |
|--|-------|---------|
| 188. To what extent have you financed your own college education? | _____ | (46) |
| <div style="display: flex; justify-content: space-between;"> <div>1. Completely</div> <div>2. Most of it (over 75%)</div> <div>3. About one-half</div> </div> <div style="display: flex; justify-content: space-between;"> <div>4. Part of it (less than 25%)</div> <div>5. None of it</div> </div> | | |
| 189. Which of the following would you say best describes what has happened to your religious attitudes in the past four years? | _____ | (47) |
| <div style="display: flex; flex-direction: column;"> <div>1. I was never really a religious person and I feel the same way now.</div> <div>2. I was a fairly religious person when I came to college and I feel the same way now.</div> <div>3. I was much more religious when I came to college than I am now.</div> <div>4. I am much more religious now than I was when I first came to college.</div> </div> | | |
| 190. Which of the following would you say best describes what has happened to your political attitudes in the past four years? | _____ | (48) |
| <div style="display: flex; flex-direction: column;"> <div>1. I was pretty much a political conservative and I still am.</div> <div>2. I was pretty much a political liberal and I still am.</div> <div>3. I am much more a political liberal than I was when I first came to college.</div> <div>4. I am much more political conservative than I was when I first came to college.</div> </div> | | |

Part XV: Items 192 - 199

Please rate each of the following factors in terms of their effect or impact on your career plans or decisions during college according to the following code:

	Code
Very important.....	1
Fairly important.....	2
Unimportant.....	3
Never received any.....	4

	Code	IBM No.
192. Vocational or psychological tests	_____	(49)
193. Discussions with academic adviser.	_____	(50)
194. Discussions with other faculty members.	_____	(51)
195. Vocational/Guidance counselor	_____	(52)
196. Advice from parents.	_____	(53)
197. Advice from family other than parents.	_____	(54)
198. Discussion with peers	_____	(55)
199. Of the seven factors listed above (192-198) which ONE do you consider played the most important part in your career decisions during college?	_____	(56)

Part XVI: Items 200 -202

200. If you had to register in the next election, how do you think you would register?	_____	(57)
--	-------	--------

1. Republican
2. Democrat
3. Socialist
4. Independent

201. The following activities cut across a number of specific jobs. Which ONE do you anticipate will be the most important part of your long-run career work?	_____	(58)
---	-------	--------

1. Teaching
2. Research
3. Administration
4. Service to patients and clients
5. None of these

202. Did you change majors while at MSU?	_____	(59)
--	-------	--------

1. Entered as NO PREFERENCE and transferred to final major.
2. Entered as NO PREFERENCE and changed major twice or more.
3. Entered a major field and did not change
4. Entered a major field and changed major one or more times

Part XVII: Items 203 - 212

For some people, the choice of a community depends upon such factors as cultural activities, type of schools, proximity to church and shopping, etc. If you did not have an opportunity to have ready access to the activities or resources listed below, how dissatisfied would you be with the community? Rate the degree of your dissatisfaction according to the following code:

	Code
Extremely dissatisfied.....	1
Quite dissatisfied.....	2
Somewhat dissatisfied.....	3
Wouldn't bother me.....	4

	Code	IBM No.
203. Opportunities to hear live performances of serious music	_____	(60)
204. Opportunities to see serious drama	_____	(61)
205. Opportunities to see professional or college athletic events.	_____	(62)
206. A good local art museum	_____	(63)
207. An excellent local bookstore.	_____	(64)
208. Opportunities to engage in serious discussion of the basic problems and issues which confront our country	_____	(65)
209. A theatre which shows foreign and art films	_____	(66)
210. Opportunities for an active social life	_____	(67)
211. A good local library.	_____	(68)
212. Excellent public schools.	_____	(69)

Part XVIII: Items 213 - 216

213. Have you married since leaving MSU?	_____	(70)
--	-------	--------

1. Yes
2. No

Some of the factors which might influence an individuals views are as follows:

1. Lecture and/or assigned course readings
2. Friends
3. Personal contact with faculty members
4. Increased independent reading
5. Independence from parental ideas
6. Increased thinking

214. If your political views have changed since you were a freshman, which factor/s listed above have most influenced you?	_____	(71)
--	-------	--------

215. If your religious views have changed since you were a freshman, which factor/s listed above have most influenced you?	_____	(72)
--	-------	--------

216. If your moral or ethical views have changed since you were a freshman, which factor/s have most influenced you?	_____	(73)
--	-------	--------

Part XIX: Items 217 - 231

This section is to be completed ONLY IF YOU TRANSFERRED TO ANOTHER INSTITUTION. OTHERWISE, GO ON TO PART XX.

217. To what institution did you transfer? _____ (74)

218. When did you transfer? _____ (Date) _____ (75)

219. Where did you take this other course work? _____ (76-78)

1. Another four-year college, FULL-TIME (how many terms)
2. Another four-year college, PART-TIME (how many terms)
3. A junior college, community college, or technical institute, FULL-TIME (how many terms)
4. A junior college, community college, or technical institute, PART-TIME (how many terms)

220. Have you received a bachelor's degree? _____ (79)

1. Yes
2. No

221. What is your present status as a student? _____ (7)

1. Freshman
2. Sophomore
3. Junior
4. Senior

Students transfer from one college to another for a variety of reasons. Below are listed nine possible reasons for transferring. We would like to know the relative importance of each of these reasons as they affected your decision to transfer from MSU. Please rate each reason according to the following code:

- CODE: 1. Of no importance, OR does not apply
2. Of slight importance
3. Of moderate importance
4. Of great importance

222. My curriculum interests changed _____ (8)

223. I wished to attend a less expensive institution _____ (9)

224. My grades were too low to continue at MSU _____ (10)

225. I wanted to be in a smaller institution _____ (11)

226. I wanted to be nearer my home town _____ (12)

227. I was generally dissatisfied with MSU _____ (13)

228. I had completed my preprofessional requirements. _____ (14)

229. I was not interested in what I was studying _____ (15)

230. Other (write in) _____ (16)

231. _____ (17)

* * * * *

Part XX: Items 232 - 253

Listed below are some of the reasons given by students for discontinuing their college education. Please rate each reason according to the following code in the blank column at the right.

CODE: 1. Of no importance, OR does not apply
2. Of slight importance
3. Of moderate importance
4. Of great importance

	Code	IBM No.		Code	IBM No.
232. Illness or physical disability (self)	_____	(18)	244. Military service (drafted)	_____	(30)
233. Illness or physical disability (family)	_____	(19)	245. Military service (enlisted)	_____	(31)
234. Financial (self)	_____	(20)	246. I lacked interest in my studies	_____	(32)
235. Financial (family)	_____	(21)	247. Dismissal for academic failure. _____	_____	(33)
236. I found college work too difficult	_____	(22)	248. Placed on academic probation.	_____	(34)
237. I was needed at home	_____	(23)	249. Dismissal for other than academic reasons	_____	(35)
238. I had marital difficulties	_____	(24)	250. Suspended for disciplinary reasons	_____	(36)
239. I took a full-time job	_____	(25)	251. My housing situation caused trouble	_____	(37)
240. I was lonesome and unhappy	_____	(26)	252. Other (write in) _____	_____	(38)
241. I planned to be married	_____	(27)	253. _____	_____	(39)
242. Commuting took too long	_____	(28)			
243. I was discouraged by low grades	_____	(29)			

* * * * *

Part XXI: Items 254 - 258

254. What are your plans about resuming your college education? (40)
1. Do not plan to attend college again.
 2. Plans to resume college work later.
 3. Undecided regarding future plans to attend college.
255. How would you describe your parents' feelings about the importance of a college education? (41)
1. Very important
 2. Important
 3. Don't care
 4. Opposed to it
 5. Very much opposed to it
256. What is your present annual income? (42)
1. Less than \$5,000
 2. \$5,000 - \$5,999
 3. \$6,000 - \$6,999
 4. \$7,000 - \$7,999
 5. \$8,000 - \$9,999
 6. Over \$10,000

If you have married or become engaged since you entered MSU as a freshman, please answer Question 257.

257. What do you think has happened to your views, opinions, and beliefs as a result of being married or engaged? (43)
1. My views and beliefs have stabilized.
 2. My views and beliefs have been reinforced.
 3. My views and beliefs have been altered or modified.
 4. No change in my views and beliefs as a result of being married or engaged.
258. (For men only) Extent of military service (44)
1. None
 2. Six months or less
 3. More than six months

* * * * *